WPP 001/4 MAN 11,1 q 19

4 · Edition

PES 6 P 110 A 720 LS 375

RQ 250/1100PA 658

Komb.-Nr. 0 402 046 251 = MAN-Nr. 2-7377

 $0\ 402\ 046\ 253 = MAN-Nr.\ 2-7379$

0402046297 = MAN-Nr. 2-7499

supersedes 1.85

MAN company:

D 2566 MT (F) (1)

206 kW (280 PS) MAN-Nr. 2-7499

D 2566 MTF-Trope.

196 kW/2200 min

A. Fuel Injection Pump Settings

Port closing at prestroke

(2.95-3.15)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

mm (from BDC) cyl. 6; RW = 9.0 - 12.0 mm

		(2,33-3,13)				
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
1100	12,4+0,1	14,7-14,9	0,4(0,75)			
250	7,3-7,5	1,1-1,6	0,45(0,7	5)		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checking of slid PRG check Contribution Cont	ol rod	Full-load s Setting po rev/min 3		Test spec Centrel red travel	rev/min	 _		cifications (5) Control rod travel mm	rev/min	Control rod (3) travel mm
	2-20,8 x. 46°	600	20,0	11,4 4,0 1350	1145-1160 1190-1220 0-1,0	7,4	100 250 355-3	min.8,9 ?,3-7,5 95 = 2,0	700 940	12,4-12,5 13,1-13,2 12,9-13,1 12,5-12,8

Torque-control travel on flyweight assembly dimension a = 0,3

Speed regulation: At 1145-1160 min-1

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on ontrol lever np. 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics 3b	[Conf		
rev/min	cm ³ /-1000 strokes	rev/min	rev/min 4	cm ³ /-1000 strokes 5	rev/min 6	red travel cm ³ /1000 strokes/mm 7	
LDA 1100 LDA 700	0,7 bar 147,0-149,0 (144,0-152,0) 0,7 bar 157,0-161,0 (154,0-164,0)	-	LDA 500 LDA 500	0,2 bar 123,0-127,0 (120,0-130,0) 0 bar 110,0-113,0 (108,0-116,0)	100	225,0-245,0 221,0-249,0)	

Checking values in brackets

9.65

Checking of s PRG check Con trave revimin 1	roi rod		•	•		Idle spee Setting p rev/min 7	Cuntrol rud fravel		cifications 5 Control rod travel mm	Torque d	Control roo
	,2-20,8 x. 46°	600	20,0	11,4 4,0 1350	1145-1160 1190-1220 0-1,0		7,4	250	min. 8,9 7,3-7,5 395 = 2,0	700 870	12,4-12,5 13,3-13,4 13,0-13,2 12,5-12,8

Torque-control travel on flyweight assembly dimension a

0,2

Speed regulation A

1145-1160 min-1

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on ontrol lever ap 40 C (104 F)	Control rod stop 3a	Fuel delive	ery characteristics 3b	Starting for	uel delivery d Contra
rev/min	cm*/-1000 strokes 2	rev/min	revimin 4	cm ¹⁷ =1000 strokes 5	rev/min 6	cm 1000 strokes / mm
(2) LDA 1100 LDA 700	0,7 bar 139,0-141,0 (138,0-142,0) 0,7 bar 150,0-154,0 (147,0-157,0)	-	LDA 500 LDA 500	0,2 bar 115,0-119,0 (112,0-122,0) 0 bar 103,0-107,0 (101,0-111,0)	100	215,0-235,0 (211,0-239,0)

Checking values in brackets

Testoil-ISO 4113

D. Adjustment Test for Manifold Pressure Compensator

Test at n =

500

rev/min increasing pressure ~ in bar gauge pressure

	mereasing		
Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PES 6 PLS 375 + RQPA 335 DR	0,70	0 0,20 0,32	13,1 - 13,2 11,3 - 11,4 11,7 - 12,1 12,6 - 12,7

Notes

(1) when a

revimin and gauge pressure

bar i. maximum full-load control rod travel)

En

Testoil-ISO 4-113

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 MAN 11,1 q 27

2. Edition

PES6P 110 A 720 LS 375

RO 300/1100 PA 658-10

supersedes

company:

7.84 MAN

Komb.-Nr. 0 402 046 309

engine:

D2566 MLUM/US

MAN-Nr. 2-7549

191 kW/22001

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from BDC) RW = 9.0-12.0 mm, Zy1.6

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
750	12,0+0,	14.7-15.0	0,4(0,75)			
300	6,8-7,0	1,5-2,0	0,45(0,75)		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che	Control rod	Full-load s Setting po	int Control	Test spec	cifications (4)	Idle spec Setting p	point Control	Test spe	cifications 5	Torque	Control rod
rev/min 1	travel mm 2		red travel mm 4	nui travui mm 5	rev/min 6	rev/min 7	rod travel mm 8	rev/min 9	travel mm 10	rev/min 11	travel mm 12
600 VH=	19,2-20,8 max. 46°	600	20,0	10,8 4,0 1350	1195-1225		7,5	100 300 380-	min.8,4 6,8-7,0 42:)=2,0	1100 880	12,0-12,1 11,2-11,3 11,7-11,9 11,3-11,6

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At 1155-1170 min-1

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np. 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics 3b	Starting t	ruel delivery ed 6
rev/min 1	cm ³ /-1000 strokes 2	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5	rev/min	cm ³ /1000 strokes·/ mm 7
LDA 750	0,7 bar 147,0-150,0 (144,5-152,5)	-	LDA 600	0,2 bar 145,0-149,0 (142,0-152,0)	100	225,0-245,0 (221,0-249,0)
LDA 1100	0,7 bar 135,0-141,0 (132,0-144,0)		LDA 500	0 bar 120,0-123,0 (117,5-125,5)	300	15,0-20,0 (12,5-22,5)

Checking values in brackets

9.85

Testatn =

500 re

rev/min decreasing pressure ~ in bar gauge pressure

MAN 11,1 q 27 - 2 -

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PES6PLS 375 +RQPA 658-10	0,70	0 0,20 0,15	12,0-12,1 11,1-11,2 11,8-11,9 11,3-11,6

Notes:

(1) when n =

rev/min and gauge pressure =

①

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 MAN 11,1r5

2. Edition

_Er

PES6P110A720LS375

RQV 250-1100 PA 669

Komb.-Nr. 0 402 046 272 = MAN-Nr. 2-7425

0 402 046 273 = MAN-Nr. 2-7433

supersedes 7.84

company: MAN

engine:

D 2566 MTF

206 kW/2200 min⁻¹

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Rotational speed rev/min	Control rod trave//	(2, 95-3, 15) Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes	Control rod travel	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1100	12,4+0,1	14,6-14,9	0,4(0,75			
250	7,3-7,5	1,0-1,5	0,45(0,75)		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed		Intermediate	rated sp	eed	Lower rated	speed	•	Sliding	leeve travel
deflection	Control rod travel	Control rod travel mm rev/min 2a	Degree of deflection of control lever	rev/min	Control rod travel mm 4	Degree of deflection of control lever	rev/min	Control rod travel		mm 11
max.	1130	15,2-17,8	-	-	. •	ca.15	100	min.8,9	300	1,7-2,0
ca. 66	11,4 4,0 1350	1140-1150 1235-1265 0-1,0				365-480	250	¹ 7,3 - 7,5	850 1000	6,0- 6,2 8, 3
						③				

Torque control travel a = 0.9 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load of Control-ro Test oil te		Rotational-speed 20 fimitation intermediate speed	high idle speed (c)		Nivery characteristics 5e Starting fuel delivery 6 tidle switching point		Torque- travel	control 5
rev/min	cm³/1000 strokee	rev/min 49	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9
LDA 1100	0,7 bar 146,0-149,0 (143,5-151,5)	1140-1150*	LDA 500	0,2 bar 123,0-127,0 (120,0-130,0)	100	225,0-245,0 (221,0-249,0)		 2,4+0,1 3,3+0,1 3,0+0,2
1DA 700	0,7 bar 157,0-161,0 (154,0-164,0)		LDA 500	0'bar 110,0-113,0 (107,5-115,5)	250	10,0-15,0 (7,5-17,5)	1000	12,5+0,3

Checking values in brackets

* 1 mm less control rod travel than col. 2

BOSCH

MAN 11,1 r 5

Test at n =

500

rev/min decreasing pressure – in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PES6PLS375 +RQVPA 669	0,70	0 0,20 0,32	13,3-13,4 11,3-11,4 11,8-11,9 12,6-12,8

Notes:

(1) when n =

rev/min and gauge pressure =

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 MAN 11,1 r 4 3. Edition

PE 6 P 110 A 320 LS 375

RQV 250-1100 PA 674

Komb.-Nr. 0 402 046 282

0

supersedes 84

company: MAN

engine: D 2566 MTE

184 kW/2200 min 1

MAN-Nr. 2-7208

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

stroke	(2,95-3,15) mm (from BDC) Zyl 6: RW = 9.0 - 12.0 mm							
Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6			
12,8+0,1	15,9-16,2	0,4(0,75)						
6,9-7,1	1,1-1,6	0,45(0,7	57					
	Control rod travel mm 2 12,8+0,1	Control rod travel mm cm³/100 strokes 2 3 12,8+0,1 15,9-16,2	Control rod travel mm cm³/100 strokes 12,8+0,1 15,9-16,2 0,4(0,75)	Control rod travel mm cm³/100 strokes 2 12,8+0,1 15,9-16,2 mm (from BDC) 7y1 6: Difference Control rod travel mm 2 0,4(0,75)	Control rod travel Control rod travel			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

	rev/min	Control rod		rated sp	Control rod	Lower rated Degree of	Control rod	Sliding sleeve travel		
of control	Control rod travel mm 2	travel (mm rev/min (2)	deflection of control lever	rev/min 5	mm 4	deflection of control lever 7	rev/min mm 3	rev/min	mm 11	
max. ca.46	1150 10,5 4,0 1350	15,2-17, 1140-115 1205-123 0 - 1,	5	•		ca. 13	100 min.8,5 250 6,9-7,1 340- 400=2,0	300 800 1100	1,4-1,7 5,0-5,2 7,9	
						3				

Torque control travel a = 1,3 mm

C. Settings for Fuel Injection Pump with Fitted Governor

	stop ip. 40°C (104°F) 2	limitation intermediate speed	high idle s	peed (5b)	switching point		ed 5b ldle switching point travel		Control Control rod
rev/min	cm ³ /1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	mm	
1	2	3	4	5	6	7	8	9	
LDA 800	0,7 bar 159,0-162,0 (156,5-164,5		LDA 500	0,17 bar 122,0-126,0 (119,0-129,0		215,0-235,0 (211,0-239,0	1100	12,8+0, 11,5+0, 12,4+0,	
1100	136,0-140, (133,0-143,	o o)	LDA 500	0 bar 97,0-100,0	250	11,0-16,0 (8,5-18,5)	1000	11,7+0,	
650	160,0 - 164, (157,0 - 167,			(94,5-102,5)					

Checking values in brackets

* 1 mm less control rod travel than col. 2

9.35



MAN 11,1 r 4 - 2 -

Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PES 6 PLS 375 + RQVPA 674	0,70	0 0,28 0,11	12,8-12,9 10,2-10,3 12,1-12,2 10,7-11,0

Notes:

(1) when n =

rev/min and gauge pressure =

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 HIP 11,9a1 2. Eaition

Er

PE6P 110 A 720 RS 380 Komb.-Nr. 0 401 846 501

RQV 250-1000 PA 434-2

companyHispavinsa engine: BSR 36 C

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel injection Pump Settings

Port closing at prestroke mm (from BDC) RW = 9.0 - 12.0 mm(2.75-2.95)Fuel delivery Spring pre-tensioning (torque-control valve) Rotational speed Control rod travel **Fuel delivery** Difference Control rod travel cm³/ rev/min cm³/100 strokes 100 strokes cm³/100 strokes mm mm mm 0,4(0,75 1000 **15,5+0,1|18,8 - 19,0** 250 8.5-8.7 2.4 - 3.00.4(0.7)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed			Intermediate	rated ap	eed	Lower rated	speed		Stiction	Sliding alseve travel	
Degree of deflection of control lever	Control rod travel	Control rod travel mm rev/min 3	②	Degree of deflection of control lever		Control rod travel mm 4	Degree of deflection of control lever	rev/min 8	Control rod travel	rev/min	① mm	
max.	1100	15,2-17	,8	-	•		ca. 16		min. 10,0 8,5- 8,7	350 430	1,1-1,2 2,4-3,1 3,8-4,0	
ca. 65	14,5 4,0 1300	1040-109 117 5- 129 0-1,0	05				350 -4 80		-	1040	7,9	

Torque control travel a = " min

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load di Control-roi Test oil ten	otivery d stop np. 40°C (104°F) 2	Rotational-speed ② timitation intermediate speed	Fuel delin high idle s	rery characteristics (3e) peed (39)	Starting fuel delivery (6) idle switching point				Torque- travel	control (5) Control rod
rev/min	cm³/1000 strokes .	rev/min 49	rev/min 4	cm ² /1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	travel mim 9'		
LDA 1000	0,7 bar 188,0-190,0 185,0-193,0)		LDA 500	0 bar 141,0-144,0 (138,5-146,5)	•		•	-		

Checking values in brackets

* 1 mm less control rod travel than col. 2

9.85



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HIP 11,9a1

- 2 -

Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PE6PRS 380 +RQVPA 434-2	0,70	0 0,45 0,31	15,5-15,6 13,2-13,3 15,0-15,1 13,7-13,9

Notes:

(1) when n =

rev/min and gauge pressure =

WPP 001/4 MAN 11,1 q 16

2. Editione

PES 6 P 120 A 720 LS 388

RQ 250/1100 PA 658-7

supersedes7 .83

Komb.-Nr. 0 402 046 263, 0 402 046 262

company: MAN

Values only apply to test nozzle-and-holder assembly

D 2566 MK

1 688 901 019 and fuel-injection test tubing 1 680 750 067

206 kW (280 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from BDC)Zy1. 6

		(2.95-3.15)		<u> </u>		
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
750	11.4+0.	1 17.8-18.0	0,5(0,9)			
250	6,2-6,	4 1,2-1,8	0,8(1,2)			
	,					

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che	ng of slider nck (1)	Full-load : Setting po	speed regulation oint Test specifications (4) Setting point Test specifications (5)			Torque control					
rev/min 1	Control rod travel mm 2	rev/min 3	Control red travel rmm 4	Control red travel rnm 5	rev/min 6	rev/min 7	Central red travel mm 8	rev/min 9	Control rod travel mm	rev/min 11	Control rod travel
600 VH=	19,2-20,8 max.46°	600	20,0	9,2 4,0 1400	1180-1210		6,3	250	min.7,8 6,2-6,4 390=2,0	750 840	10,2-10,3 11,9-12,0 11,5-11,7 10,5-10,8
	ontrol travel ght assembly dimer	sion a =	0,4	15 _{mm}	Spe	ed regula		145-1	160 min ⁻¹		1 mm less contro rod trave

C. Settings for Fuel Injection Pump with Fitted Governor

	lelivery on control lever mp. 40°C (104°F)	Control rod stop 33	Fuel deliv	ery characteristics 36	Starting fuel delivery Idle speed		
rev/min 1	cm ³ /-1000 strokes 2	r o v/min 3	rev/min 4	cm³/~1000 strokes	rev/min 6	red travel cm ³ /1000 strokes:/ mm	
LDA	0,7 bar	-	LDA	0,31 bar	100	205,0-225,0	
750	178,0-180,0		500	131,0-137,0		(201,0-229,0)	
	(175,0-183,0)			(128,0-140,0)		}	
LDA	0,7 bar		LDA	0 bar	l		
1100		i	500	104,0-106,0		1	
	(157,0-169,0)		:	(101,0-109,0)	ł	1	
1		1	LDA	0,7 bar			
			650	171,0-177,0			
	<u> </u>	<u>.l</u>		1-1466 A-400 A	L	<u> </u>	

Checking values in brackets

10.85

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4: 1980 by Robert Bosch GmbH. Postfach 50. D-7000 Stuttgart 1: Printed in the Federal Republic of Germany. Imprime en République Fédérale d'Allemagne par Robert Bosch GmbH.

D. Adjustment Test for Manifold Pressure Compensator $\,$ $_{\rm MAN}$ $_{11,1}$ $_{\rm q}$ $_{16}$

Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PES 6 PLS 388 +RQPA 658-7	0,31	0,70 0 0,43	10,3-10,4 11,4-11,5 9,2-9,3 10,9-11,1

Notes

(1) when n =

rev/min and gauge pressure =

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 MB 21.9 b 2

2. Edition

PE 12 P 120 A 320 LS 3819-1

ROV 350-1150 PA 493-3

supersedes .95

company:Daimler-Benz 1-5-9-8-3-4-11-10-2-6-7-12 0-15-60-75-120-135-180-195-240-255-300-315° ±0,5° (±0,75°) engine: OM 424 LA

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 067 All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

Komb.Nr. 0 401 840 719

A. Fuel Injection Pump Settings

	travel	i	,	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
ev/min	mm 2	cm ³ /100 strokes 3	cm³/ 100 strokes 4	mm 2 .	cm ³ /100 strokes 3	mm 6
1150	12,1+0,1	18,0-18,2	0,5(0,9)			
350	4,8-5,0	1,4-2,0	0,8(1,2)		·	

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

deflection of control	rev/min Control rod travel	travel ((S)	Intermediate Degree of deflection of control lever	rated sp	Control rod travel	Lower rated Degree of deflection of control lever	speed rev/min	Control rod travel	Sliding a	leave travel
max.	1180 11,1 4,0 1350	15,2-17 1190-12 1235-12 0-1,	00 6 5	-	•	•	ca. 12 400-60	350	min.6,2 4,5-4,7	350 510 1150 1200	2,2-2,3 3,2-3,5 7,5-8,8 9,0

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Feli-load de Control-roc Test oil ten		Rotational-speed 20 limitation intermediate speed	Fuel delin high idle :	very characteristics(Se) peed (Se)	Starting fuel delivery 6			Control rod
rev/min	cm ³ /1000 strokes	rev/min 4a	rev/min 4	cm ³ /1000 strokes	rev/min 6	cm ³ /1000 strok es 7	rev/min	travel mm 9
LDA 1150 LDA 1150	0,7 bar 180,0-182,0 (177,0-185,0) 0,7 bar 134,0-138,0 (131,0-141,0)		LDA 650 LDA 500	0,7 bar 179,0-185,0 (176,0-188,0 0 bar 131,0-133,0 (128,0-136,0	350	150,0-170,0 (146,0-174,0 4,5-4,7 mm RW		-

Checking values in brackets

* 1 mm less control rod travel than col 2

** Set at the reduced-delivery stop.

ņ.85

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Test at n =

 $500 \qquad {}_{\text{rev/min}} \stackrel{\text{decreasing}}{\text{increasing pressure - in bar gauge pressure}}$

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PE12PLS3819-1 + RQVPA493-3	0,70	0 0,54 0,47	12,1-12,2 10,1-10,3 11,4-11,5 10,6-10,8

Notes:

(1) when n =

rev/min and gauge pressure =

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 MB 21,9 e 2 2. Edition

En

PE 12 P 110 A 320 LS 3820-1 RQV 350-1150 PA 378-1 superseded 2.84 Komb.-Nr. 0 401 840 709 company: Daimler-Benz 1-5-9-8-3-4-11-10-2-6-7-12 engine: OM 424 0-15-60-75-120-135-180-195-240-255-300-315° ± 0,5° (± 0,75°) 309 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1150 350	11,4+0,1 7,7-7,9	L	0,4(0,8)			

Adjust the fuel delivery from each outlet according to the values in _______.

B. Governor Settings

Upper rated s	Upper rated speed Intermediate rated speed				Lower rated	speed		Sliding	sleeve travel			
deflection	rev/min Control rod travel mm 2	travei C		Degree of deflection of control lever	rev/min 5	Control ro travel mm 6	o	Degree of deflection of control lever	rev/min 8	Control rod travel mm 3		, ①
max.	1200	15,2-17	,8	-	-	-		ca. 19	100	min.9,0	300	1,2-1,4
ca. 64	10,4 4,0 1300	1170-118 1235-126 0-1,0	65					375-485	300	7,4-7,6		3,6-3,9 5,2-5,5 7,8
		·						③				

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ten			Fuel delic high idle s	rery characteristics (5e peed (50)	Starting fuel delivery 6 Idle switching point		Torque- travel	Control rod
rev/min	cm³/1000 strokes	rev/min 49	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9
1150	122,0-124,0 (119,0-127,0)		600 1150	(93,0-103,0		130,0-140,0 (126,0-144,0		-

Checking values in brackets

* 1 mm less control rod travel than col. 2

** Set at the reduced-delivery stop.

9.85

BOSCH

Geschäftsbereich KM. Kundendienst. Kfz-Auerustung. 5 by Robert Bosch GmbH. D-7 Stuttgart 1. Positech 50. Printed in the Federal Republic of Germany Imprime en Republique Federale d'Allemagne per Robert Bosch GmbH.

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 MB 21,9 f

2. Edition

PE 12 P 120 A 320 LS 3825 ROV 350-1050 PA 693

1 - 5 - 9 - 8 - 3 - 4 - 11 - 10 - 2 - 6 - 7 - 12 0 - 15 - 60 - 75 - 120 - 135 - 180 - 195 - 240 - 255 - 300 - 315° + 0.5°

supersedes 10.84 company Daimler-Benz OM 424 A

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 067 All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke mm (from BDC) (3.95-4.15)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1050	9,7-9,8	14,8-15,0	0,5(0,9)			
350 600 500	4,5-4,7	1,4-2,0 C, Sp. 4u.5	0,8(1,2) 0,8(1,2)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed		Intermediate	e rated sp	ee.j	Lower rated	speed		Sliding s	leeve travel
Degree of deflection of control lever	rev/min Control rod travel mm	Control rod (18 travel mm rev/min (28	Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel	rev/min	mm (1)
1	2	3	4	5	6	7	8	9	10	11
max.	1180	15,2-17,8	-	-	•	ca.12	100 350	min.6,2 4,5-4,7	300 550	1,0-1,2 3,4-3,6
ca. 58	8,7	1085-1095 1165-1195							800 1050	4,8-5,0 7,1
† 1	1300	0-1,0	1			350-600	•			
İ					Ì	③				

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load of Control-ro Test oil ter		Rotational-speed 2b limitation intermediate speed	Fuel delin high idle s	rery characteristics (5e)	Starting Idle switchin		Torque- travel	control 5
rev/min	cm³/1000 strokes	rev/min 49	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
7	2	3	4	5	6	7	8	9
LDA 1050	0,7 bar 148,0-150,0 (145,0-153,0		LDA 600 LDA 500	0,7 bar 146,0-152,0 (143,0-155,0) 0 bar 128,0-130,0 (125,0-133,0)		150,0-170,0 (146,0-174,0)	•	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

9.85

MB 21,9 f

- 2 -

Tes	t a	t n	=

500

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure ≈ bar	mm (1)
PE 12 PLS 3825 +RQVPA 693	0,70	0 0,36 0,32	9,7-9,8 9,3-9,5 9,5-9,6 9,4-9,6

Notes:

(1) when n =

rev/min and gauge pressure =

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 MB 5,7 n 12

1. Edition

PES 6 A 90 D 410 RS 2293 Komb.-Nr. 9 400 085 247

ROV 300-1425 AB 1214 L

supersedes -

company: Daimler-Benz OM 352 A

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1400	11,2+0,1	7,6 - 7,7	0,3 (0,5)			
300	7,6-7,8	1,2 - 1,6	0,25(0,45	•		
				;		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated :	speed			Intermediate	rated sp	eed	Lower rated	speed	<u> </u>	Slidina s	leeve travel
Degree of deflection of control lever	rev/min Control rod travel mm 2	Control rod travel mm rev/min 3	(a) (2a)	Degree of deflection of control lever	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever	rev/min 8	Control rod travel mm 3 9	rev/min 10	mm 11
max.	1420	16,0-19	,4	-	-	-	ca.15		min. 8,5	_	1,1-1,5 3,1-3,3
ca. 61	10,2 4,0 1750	•				•			-750=2,0		4,5-4,7 8,6
	<u> </u>						3a				

Torque contro! travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-rec Test oil ten		Rotational-speed 2b fimitation intermediate speed	high ide speed (S) Idle			Torque- travel	control 5	
rev/min	cm ³ /1000 strokes .	rev/min 4a	rev/min	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min 8	travel mm
LDA 1400	0,2 bar 75,5 - 76,5 (73,5 - 78,5)	1440-1450*	LDA 500 LDA 500	0,2 bar 58,5 - 60,5 (56,0 - 63,0 0 bar 51,0 - 54,0 (49,5 - 56,5)	70,0-80,0 =13,8-14,2 mm RW	-	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

3.85

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MB 5,7 n 12

n 12 - 2 -

Testain =

500

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PES 6 ARS 2293 +RSVAB 1214 L	0,20	0 0,12 0,09	11,2 - 11,3 10,6 - 10,7 11,0 - 11,1 10,7 - 10,9

Notes.

(1) when n =

rev/min and gauge pressure =

40

WPP 001/4 MB 18,3 q

1. Edition

En

PE 10 P 120 A 320 LS 3831 RQ 750 PA 635-3 1-8-7-6-3-5-2-10-9-4 0-27-72-99-144-171-216-243-288-315° $\stackrel{+}{-}$ 0,5° ($\stackrel{+}{-}$ 0,75°) Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 067

company.Daimler-Benz engine OM 423 LA 278 kW

Komb.-Nr. 0 401 849 716

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (3,95-4,15) mm (from BDCZy1. 10

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
700	12,0+0,	19,3-19,5	0,5(0,8)			
300	4,9-5,	1,4-2,0	0,8(1,2)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che	g of slider ick	\ni	Full-load s Setting po			cifications (4)	Idle spec	•		cifications (5)	Torque o	control (3)
rev/min	Control rod travel mm 2)	rev/min 3	Central red travel rnm 4	Central red travel FT/FT 5	rev/min 6	rev/min 7	Contret red travel mm 8	rev/min 9	Control rod	rev/min	Control rod travel
•	•		•	•	11,0 4,0 840	750-755 778-791 0-1,5	•	•	•	-	-	-

Torque-control travel
on flyweight assembly dimension a *

Soes

Speed regulation: At 750-755 min⁻¹

1 mm less control

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np. 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics 3b	Starting fuel delivery Idle speed		
rev/min 1	cm ³ /-1000 strokes 2	rev/min 3	rev/min 4	cm ³ /-1000 strokes S	rev/min	Centre red travel cm ³ /1000 strokes-/ mm 7	
700	193,0-195,0 (190,0-198,0)	•	-	-	100	160,0-180,0 (156,0-184,0)	

Checking values in brackets

9.85

BOSCH

WPP 001/4 MAN 17,4 c

1. Edition

PE 10 P 120 A 520/4 LS 3833 RQ 750 PA 663-7 1-8-7-6-3-5-2-10-9-4 $0-i^7-72-99-144-171-216-243-288-315^{\circ}+0.5^{\circ}$ (+ 0.75°) Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 067 MAN-Nr. 2-7666

supersedes -MAN company:

D 2540 LE engine: 352 kW

Komb.-NR. 0 401 849 721

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(4,15-4,35)

mm (from BDC)RW = 9.0 - 12.0 mm

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
700	13,3+0,1	22,9 - 23,1	0,5 (0,9)			
300	5,8-6,0	1,4 - 2,0	0,8 (1,2)			
					<i>?</i>	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checking PRG chec	g of slider ck (1	Full-load : Setting p		-	cifications $(\overline{4})$	Idle spec			cifications (5)	Torque o	(3)
_	Control rod travel mm 2	rev/min 3	Central red travel mm 4	Central rad traval rnm	rev/min 6	rev/min 7	Control red travel mm 8	rev/min 9	Control rod travel mm 10	rev/min 11	Control rod travel mm
•	-	-	-	12,3 4,0 950	750-755 780-793 0 -1,0	•	-	•	-	-	-
	ontrol travel ght assembly dime	ension a =	•	mm	Spe	ed regula		50 - 7	755 min ⁻¹		1 mm less contro

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp. 40°C (104°F)		Control rod stop 3a	Fuel deliv	ery characteristics	Starting fuel delivery Idle speed		
rev/min 1	cm ³ /-1000 strokes 2	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5	rev/min 6	cm ³ /1000 strokes/mm	
700	229,0 - 231,0 (226,0 - 234,0)	•	-	-	-	-	

Checking values in brackets

9.85

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Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 SCA 11,0 u 12 1. Edition

PE 6 P 120 A 720 RS 7001 W Komb.-Nr. 0 402 646 819 W

RQ 200/1100 PA 713

supersedes

Scania company

Values only apply to test nozzle-and-holder assembly

DS 1128 engine:

1 688 901 019 and fuel-injection test tubing 1 680 750 015

Please note instructions on sheet 2

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings 5,0-5,1 Port closing at prestroke (4.95-5.5)

mm (from BDCRW = 9.0 - 12.0 mm

		(4,95-5,5)	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	$\mathbf{W} = \mathbf{J}, \mathbf{U}$	- 12,0 lim	
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
700	12,6+0,1	18,0 - 18,2	0,6 (0,9))		3,3 <u>+</u> 0,1
225	4,4-4,6	1,3 - 1,7	0,3 (0,6)	Y		(3,0 - 3,5)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

	_	Full-load :				idle spec	_			Torque (
PRG che rev/min 1	Control rod	Setting por rev/min 3	Central red travel mm	Test spec Central red travel mm	rev/min		coint Centrel red travel mm 8	Test spe rev/min 9	cifications (5) Control rod travel mm	rev/min 11	Control rod (3) travel mm
1300	15,2-17,8	1300	16,5		1145-1160 1270-1300 0 - 1,0	225	4,5	225	min. 5,9 4,4-4,6 340=2,0	•	-
Torque-c	ontrol travel						11	45 -	1160 min		1 mm less control

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d governor of Test oil ten	elivery on control lever np. 40°C (104°F)	Control rod stop 33	Fuel delive	· /2L\	Starting for a special	uel delivery d 6
rev/min	cm ³ /-1000 strokes 2	rev/min 3	rev/min 4	cm ³ /-1000 strok es 5	rev/min 6	cm ³ /1000 strokes:/ mm 7
LDA 700	0,5 bar 180,0 - 182,0 (177,0 - 185,0)	-	LDA 1100 LDA 500	0,5 bar 178,0 - 186,0 (176,0 - 188,0) 0 bar 120,0 - 124,0 (118,0 - 126,0)	100	240,0 - 290,0 = 20,0 - 21,0 mm RW

Checking values in brackets

8.85

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Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

SCA 11,0 u 12

. 2 ..

Pump/governor	Setting	Measurement	diminution Control rad travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PE 6 PRS 7001 W + RQPA 713	0,50	0 0,28 0,17	12,6 - 12,7 10,3 - 10,4 11,4 - 11,5 10,5 - 10,7

Notes:

(1) when n =

rev/min and gauge pressure = bar (= maximum full-load control rod travel)

SUPPLEMENTARY INFORMATION

- Checking and adjustment without a ROBO diaphragm
- For combination with letter index see VDT-I-400/116
- For sealing, see VDT-I-400/117
- Test specifications approved by Scania on 4. 30.8.1984
- Start of fuel delivery-engine:

11° before TDC

- Firing sequence, engine

1-5-3-6-2-4

** Due to smoothing of the sealing edge, the spring tension with a new delivery-valve holder must be adjusted 2,9 - 3,1 mm.

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 SCA 14.2 h 1. Edition

PE 8 P 120 A 920/4 LS 7003 Komb.-Nr. 9 400 087 298

RQ 900 PA 695

1 - 2 - 7 - 3 - 4 - 5 - 6 - 8 je $45^{\circ} + 0.5^{\circ} + 0.75^{\circ}$ Values only apply to test nozzle-and-holder assembly

1 688 901 019 and fuel-injection test tubing 1 680 750 015

supersedes _

Saab Scania company:

DS 14 engine

293 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (4.95-5.15)

mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
850	12,8-0,1	18,6 - 18,8	0,6(0,9)			$\begin{array}{c} 3,3 \pm 0,1 \\ (3,0 - 3,5) \end{array}$

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che	g of slider ick Control rod	①	Full-load s Setting po	•	•	cifications (4)	Idle spec Setting p	•		cifications 5	Torque o	Control rod
rev/min 1	travel			red travel mm 4	nd travel mm 5	rev/min 6	rev/min 7	red travel	rev/min 9	travel	rev/min 11	travel mm 12
•	•		•	•	11,8 4,0 1000	900-905 941-955 0 -1,0	•	•	•	•	•	•

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At

mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	delivery on control lever mp. 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics 3b	Starting f	tuel delivery
rev/min 1	cm ³ /-1000 strokes 2	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5	rev/min	red same cm ³ /1000 strokes:/ mm 7
850	186,0 - 188,0 (183,0 - 191,0)	-	-	-	100	240,0 - 290,0 = 20,0 - 21,0 mm RW
				,		

Checking values in brackets

8.85

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 SCA 14,2 g 2. Edition

PE 8 P 120 A 920/4 LS 7002

ROV 275-1000 PA 547-3

supersedes 10.84

1 - 2 - 7 - 3 - 4 - 5 - 6 - 8 je $45^{\circ} + 0.5^{\circ}$ ($\pm 0.75^{\circ}$)

Scania company: DS 1406

engine: LKW 142-Kran

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 015

Komb.-Nr. 0 402 648 810

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

mm (from BDC) RW = 9.0 - 12.0 mmPort closing at prestroke

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
700	13,2+0,1	18,7 - 18,9	0,6 (0,9)			3,3 <u>+</u> 0,1
275	4,4-4,6	1,0 - 1,4	0,3 (0,6)			(3,0 - 3,5) **

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper rated s	peed			Intermediate rated speed				Lower rated	speed	Sliding sleeve travel		
deflection	rev/min Control rod travel mm 2	Control rod travel mm rev/min 3	(1) (2)	Degree of deflection of control lever	rev/min 5	Control travel mm		Degree of deflection of control lever	rev/min	Control rod travel mm 3	rev/min	(1) mm 11
max. ca. 60	1090 12,2 4,0 1250		50	-	•		-	ca. 8	100 275 320	min. 5,9 4,4-4,6 -380=2,0	350	1,0-1,1 1,8-2,7 3,3-4,4 4,8-5,0 8,1

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-ros Test oil ten		Rotational-speed 20 limitation intermediate speed	Fuel delic high idle s	rery characteristics (5e)	Starting Idle awitchir		Torque- travel	Control cod
rev/min	cm ³ /1000 strokes	rev/min 4	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9
LDA 700	0,9 bar 187,0-189,0 (184,0-192,0		LDA 1000 LDA 500	0,9 bar 183,0-191,0 (181,0-193,0 0 bar 137,0-141,0 (135,0-143,0)	240,0-290,0 =20,0-21,0 mm RW	-	•

Checking values in brackets

1 mm less control rod travel than col. 2

8.85

SCA 14,2 g - 2 -

Testatn =

500

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PE 8 PLS 7002 + RQVPA 547-3	0,90	0 0,35 0,23	13,2 - 13,3 11,3 - 11,4 12,8 - 12,9 11,9 - 12,1

Notes:

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

SUPPLEMENTARY INFORMATION

- Checking and adjustment without a ROBO diaphragm
- For combination with letter index see VDT-I-400/116
- For sealing, see VDT-I-400/117
- Test specifications approved by Scania on 2.11.83
- Start of fuel delivery-engine:

18° before TDC

- Firing sequence, engine

1-5-4-2-6-3-7-8

** Due to smoothing of the sealing edge, the spring tension with a new delivery-valve holder must be adjusted 2,9 - 3,1 mm.

Test specifications Fuel injection pumps and governors

WPP 001/4 MTU 26,5 b1

2. Edition

PE 8 ZW 160/120 RS1027/11 Komb.-Nr. 0 402 438 025

RQUV 300-900 ZWA 51 R

Replaces 1.85
Firm: MTU

Engine:

396

1-2-6-3-4-5-7-8 je 45 $^{\circ}$ $^{\pm}$ 0,5 $^{\circ}$ ($^{\pm}$ 0,75 $^{\circ}$) Note VDT-W-Allg./7 !

All test specifications apply only to Bosch fuel-injection pump test benches and equipment

A. Fuel-injection-pump settings

Port closing a	t prestroke	2,5-2,6 2,45-2,65)	mm (from BDC)Zy1		
Rotational speed min ⁻¹ 1	rod travel mm 2	Fuel delivery Average value cm ³ /1000 strokes 3	in fuel delivery cm ³ /1000 strokes	Fuel delivery Checking values cm ³ /1000 strokes 5	Spring pre-tension , orque-control valve)
600 600 300	18 9 9	513,0-523,0 140,0-160,0 72,0-92,0	16,0 (24,0) 12,0 (18,0) 11,0 (16,0)	510,0-526,0 135,0-165,0 67,0-97,0	

Adjust the fuel delivery from each outlet according to the values in

B. Governor settings

Upper rated	speed		Medium ra	ited spe	ed	Lower rat	ted spee	.	Torqu	e control
Control lever deflection degrees 1	mm min-1 2	Control- rod travel mm min-1 3	Control lever flection degrees 4	min-1 5	Control- rod travel mm 6	Control lever de- flection degrees 7	min-1 8	Control- rod travel mm 9	min-1 10	Control- rod travel mm
ca. 79	900	18,0-19,0	ca. 2		8,0	ca. 2	1300	8,0		
ca. 79	700 17,0 4,0 1100	905-925	(max. 30	200 300 500 590	10,3-11,	B	200 400 485			

Torque control travel a =

mm

Speed regulation: At

1 mm less control rod travel

C. Settings for fuel-injection pump with fitted governor

l on gov	ad delivery ernor control lever il temperature 40°)	Control rod stop at speed	Fuel-de charact		Starting fuel delivery		
min-1 1	cm ³ /1000 strokes 2	min-1 3 Idle stop	min-1 4	cm ³ /1000 strokes 5	mın '	cm ³ /1000 strokes 7	
_	not known	300 RW = 8,0 mm	-	-	-	-	

Checking values in brackets

9.85

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Test specifications Fuel injection pumps and governors

WPP 001/4 MTU 19,9 e 1

2. Edition

PE 6 ZW 160/120 RS 1028/11 Komb.-Nr. 0 402 436 058

RQUV 300-900 ZWA 51 R

Replaces 1 • 85

MTU 396

1-2-3-4-5-6 0-45-120-165-240-185 ° $\stackrel{+}{=}$ 0,5 ° ($\stackrel{+}{=}$ 0,75 °)

Engine:

Note VDT-W-Allg./7!

All test specifications apply only to Bosch fuel-injection pump test benches and equipment

A. Fuel-injection-pump settings

Port closing a	t prestroke	2,5-2,6 (2,45-2,65)	mm (from BDC)	Zyl. 6	
Rotational	Control-	Fuel delivery	Difference	Fuel delivery	Spring pre-tension (torque-control
speed	rod travel	Average value	in fuel delivery	Checking values	valve)
min~1	mm	cm ³ /1000 strokes	cm ³ /1000 strokes	cm ³ /1000 strokes	
1	٠ 2	3	4	5	
600	18,0	513,0-523,0	16,0 (24,0)	510,0-526,0	
600	9,0	140,0-160,0	12,0 (18,0)	135,0-165,0	
300	9,0	72,0-92,0	11,0 (16,0)	67,0-97,0	
	j				
	1				
	1			,	·

Adjust the fuel delivery from each outlet according to the values in

B. Governor settings

Upper rated	speed		Medium rated speed			Lower rated speed				e control
Control lever deflection degrees	mm min-1 2	Control- rod travel mm min-1 3	Control lever flection degrees 4	min-1 5	Control- rod travel mm 6	Control lever de- flection degrees 7		Control- rod travel mm 9	min-1	Control- rod travel mm
ca. 79	900	18,0-19,0	ca. 27	375	8,0	ca. 2	1 300	8,0		
ca. 79	700 17,0 4,0 1100	905-925	(max. 30	200 300 500	10,3-11,	β	200 400 485	10,8-14, 3,9-5,0 590 = 0		

Torque control travel a = -

mm

Speed regulation: At

1 mm less control rod travel

C. Settings for fuel-injection pump with fitted governor

on gove	d delivery ernor control lever I temperature 40°)	Control rod stop at speed	Fuel-delivery characteristics	Starting fuel delivery
min-1 1	cm ³ /1000 strokes 2	min-1 3 Idle stop	min ⁻¹ cm³/1000 strokes 5	min ⁻¹ cm ³ /1000 strokes 6 7
•	not known!	300 RW = 8,0 mm	-	-

Checking values in brackets

9.85

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung.

by Robert Bosch GmbH. D-7 Stuttgart 1. Postfach 50. Printed in the Federal Republic of Garmany imprime en Republique Féderale d'Allemagne par Robert Bosch GmbH.

Test specifications Fuel injection pumps and governors En.

WPP 001/4 MTU 19,9 e

2. Edition

PE 6 ZW 160/120 RS 1028/11

ROUV 300-1200 ZWA 51 R

Replaces 1.85

Komb.-Nr. 0 402 436 057

Firm:

MTU

6 V 331 Engine:

1-2-3-4-5-6 0-45-120-165-24C-285° ± 0,5° (± 0,75°)

Note VDT-W-Allq./7!

All test specifications apply only to Bosch fuel-injection pump test benches and equipment

A. Fuel-injection-pump settings

Port closing a	t prestroke	2,5-2, 0 (2,45-2,65)	mm (from BDC)Zy1	. 6	
Rotational	Control-	Fuel delivery	Difference	Fuel delivery	Spring pre-tension (torque-control
speed	rod travel	Average value	in fuel delivery	Checking values	valve)
min ⁻¹	mm	cm ³ /1000 strokes	cm ³ /1000 strokes	cm ³ /1000 strokes	
1	2	3	4	5	
600 600 300	18,0 9,0 9,0	513,0-523,0 140,0-160,0 72,0-92,0	16,0 (24,0) 12,0 (18,0) 11,0 (16,0)	135,0-165,0	

Adjust the fuel delivery from each outlet according to the values in

B. Governor settings

Upper rated	speed		Medium ra	ted spe	ed	Lower rat	ed spee		Torqu	e control
Control lever deflection degrees	mm	Control- rod travel mm min-1 3	Control lever flection degrees 4	min-1 5	Control- rod travel mm 6	Control lever de- flection degrees 7	min-1 8	Control- rod travel mm 9	min-' 10	Control- rod travel mm 11
ca. 84	1200 17,0 4,0 1400	1320-1380	ca. 27 (max.30	200 300 500	14,3-17 10,3-11	,8	200 400	10,8-14		-

Torque control travel a =

Speed regulation: At

1 mm less control rod travel

C. Settings for fuel-injection pump with fitted governor

on gove	d delivery ernor control lever temperature 40°)	Control rod stop at speed	Fuel-de charact		Starting fuel delivery		
min-i 1	cm ³ /1000 strokes 2	min-i Idle stop	min-1 4	cm³/1000 strokes 5	min-1 6	cm³/1000 strokes 7	
•	not known	300 RW = 8,0 mm	-	-	-	-	

Checking values in brackets

WPP 001/4 MTU 39,7 c 1

2. Edition

En.

PE 12 ZW 150/120 RS 1029 Komb.-Nr. 0 402 430 012

RQV 300-1200 ZWA 51 R

Replace 2.83 Firm: MTU

Engine: 12 V 331

1-12- 9- 4 - 5 - 8 - 11- 2 - 3 - 10- 7 - 6

0-45-60-105-120-165-180-225-240-285-300-345 ° ±0,5 °(±0,75 °)

Note VDT-W-Allg./7!

All test specifications apply only to Bosch fuel-injection pump test benches and equipment

A. Fuel-injection-pump settings

Port closing a	t prestroke	(2,45-2,65)	mm (from BDC)	Zy1.12	
Rotational	Control-	Fuel delivery	Difference in fuel delivery	Fuel delivery Checking values	Spring pre-tension (torque-control valve)
speed min ⁻¹	mm	Average value cm ³ /1000 strokes	cm ³ /1000 strokes	cm ³ /1000 strokes	,
1000 600 300	18,0 9,0 9,0	501,0-511,0 110,0-130,0 46,0-72,0	15,0 (22,0) 15,0 (22,0) 10,0 (15,0)	498,0-514,0 107,0-133,0 43,0-75,0	

Adjust the fuel delivery from each outlet according to the values in

B. Governor settings

Upper rated Control lever deflection degrees 1	mm min-1	Control- rod travel mm min-1 3	Medium ra Control lever flection degrees 4	ted spec min-1 5	ed Control- rod travel mm 6	Lower rat Control lever de- flection degrees 7	1	d Control- rod travel mm 9	e control Control- rod travel mm
ca. 84	1200 1200 17,0 4,0 1400		ca. 27 (max.30)	200 300 500	8,0 14,3-17, 10,3-11, 2,5-2,7 720 = 0	Β.	200 400	8,0 10,8-14, 3,9-5,0 590 = 0	 -

Torque control travel a =

Speed regulation: At

1 mm less control rod travel

C. Settings for fuel-injection pump with fitted governor

on gove	d delivery ernor control lever I temperature 40°)	Control rod stop at speed	Fuel-delivery characteristics		Starting fuel delivery		
min-1 1	cm ³ /1000 strokes 2	min-1 3 Idle stop	min-1 4	cm³/1000 strokes 5	min · ¹ 6	cm ³ /1000 strokes 7	
•	not known	300 RW = 8,0 mm	-	-			

Checking values in brackets

9/85

Testal Contract

Test specifications Fuel injection pumps and governors

WPP 001/4 MTU 39,7 c 2

2. Edition

PE 12 ZW 160/120 RS 1029/11

ROUV 300 - 900 ZWA 51 R

Replaces 2.85

Komb.-Nr. 0 402 430 010

Firm:

MTU Engine: 396

1-12-9-4-5-8-11-2-3-10-7-6

 $0-45-60-105-120-165-180-225-240-285-300-345^{\circ} \pm 0,5^{\circ} (\pm 0,75^{\circ})$

Note VDT-W-Allg./7 !

All test specifications apply only to Bosch fuel-injection pump test benches and equipment

A. Fuel-injection-pump settings

Rotational	Control-	(2,45-2,65) Fuel delivery	Difference	Fuel delivery	Spring pre-tension (torque-control
speed	rod travel	Average value	in fu^! delivery	Checking values	valve)
min-1	mm	cm ³ /1000 strokes	cm³/1000 s.:okes	cm ³ /1000 strokes	
1	2	3	4	5	
600	18,0	513,0-523,0	22,0 (33,0)	510,0 - 526,0	-
600	9,0	140,0-160,0	12,0 (18,0)	135,0 - 165,0	
300	9,0	72,0- 92,0	11,0 (16,0)	67,0 - 97,0	
: 					
		į			

Adjust the fuel delivery from each outlet according to the values in

B. Governor settings

Upper rated	speed		Medium ra	ted spe	ed	Lower rat	ed spee	_		e control
Control lever deflection degrees 1	mm min-1 2	Control- rod travel mm min-1 3	Control lever flection degrees 4	min-1 5	Control- rod travel mm 6	Control lever de- flection degrees 7	min-1 8	Control- rod travel mm 9	min-1	Control- rod travel mm 11
ca. 79	900	18,0-19,0		١.	8,0	ca.21	300	8,0	-	-
ca. 79	700 17,0 4,0 1100	18,0-19,6 905 - 925 1000 -1050 0 - 2,0		200 300 500 590	14,3-17, 10,3-11, 2,5- 3, - 720 = 0	B 7	200 400 485	10,8-14, 3,9-5, - 590 = 0		

Torque control travel a -

Speed regulation: At

1 mm less control rod travel

C. Settings for fuel-injection pump with fitted governor

on gove	d delivery ernor control lever I temperature 40°)	Control rod stop at speed	Fuel-delivery characteristics		Startin deliver	
min-1 1	cm³/1000 strokes 2	min-1 Idle stop	min ⁻¹	cm³/1000 strokes 5	min-1 6	cm ³ /1000 strokes 7
•	not known	300 RW = 8,0 mm	-	-	-	-

Checking values in brackets

WPP 001/4 IHC 3,5e

2. Edition

VA 4/100 H 1150 CR 12-10

2. Test Specifications

supersedes

8.73

company.

IHC

engine:

D 206

All test specifications are valid for **Bosch Fuel Injection Pump Test Benches**

and Testers

Test Intructions and Test Equipment

VDT-WPP 161/4 B

Pre-stroke setting

Festoil-ISO 4113

 $0.5 \, \text{mm} \pm 0.04$

plunger lift of 0.36 mm related to outlet "A".

Pre-setting see reverse side

1. Settings	rev/min	Settings	Charge-air press kp/cm²	Difference in delivery cm ³
1.1 Timing device travel	800	2,5-3,5 mm		
1.2 Supply pump pressure	800	4,5-5,0 kp/cm²		}
1.3 Full-load delivery without charge-air pressure	800	61,5-62,5 cm ³ /1000 stroke	s	2,5
Full-load delivery with charge-air pressure		cm ³ /1000 stroke	8	
1.4 Idle speed regulation	370	12,0-18,0 cm ³ /1000 stroke	s	3,0
1.5 Start 196 bar	100	mind. 90, 0 cm ³ /1000 stroke	s	
1.6 Full-load speed regulation	1230	21,0-29,0 cm ³ /1000 stroke	s	

Checking values in brackets

21 Timing device	rev/min	350-520(320-		•	300	1020-1150
	mm	Start	0,9-1,9	(0,6-2,2) (2,2	2-3,8)	4,7-5,4(4,4-5,7)
2.2 Supply pump	rev/min	200		8	00	1150
	kp/cm²	1,5-2,0(1,3-	2,2)	(4,3	3-5,2)	5,8-6,3(5,6-6,5)
Overflow delivery	rev/min	500				1150
	cm ³ /10 s	55-100(40-1	10)			55-100(40-110)
23 Fuel deliveries						
Speed control lever	Delivery lever	rev/min	cm³/1000 strokes		Charge-8	air pressure kp/cm²
End stop	Full	1250-1310 (1230-1330) 1230	0	(20,0-30,0)		
		1150-1170 1200 800	Start 66,0-69,0	(65,0-70,0) (61,0-63,0)		
	Stop	1150	0			
idle stop	Full	420-500 (400-520) 370	0	(11,0-19,0)		
	Start	100	mind. 90, 0			
End stop		220-300				

Angle to the stop-plate	Pre-setting dimensions
Pump $\alpha = 25 \pm 4^{\circ}$ $\beta = 40 \pm 8^{\circ}$ $\gamma = 30 - 8^{\circ}$ $\delta = 60 + 8^{\circ}$	Pump Dimension IV= 2,0 mm Dimension V= 24,6 mm

Test Specifications Distributor-type Fuel-injection Pumps

WPP 001/4 BUK 1,5 b

2. Edition

VE 3/10 F 1800 L 33-1

0 460 403 002

Overflow temperature 45° C

supersedes companyBukh engine: DV 36 ME

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

+ 0.02 (0.04)

Test Instructions and Test Equipment

see VDT-W-460/...

Pre-stroke setting	۵۰۶	mm = 0,02			
1. Settings		Rot, speed rev/min	Settings		
1.1 Timing device travel		1600	4,1-4,5	mm	
		1	1		

1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel	1600	4,1-4,5	mm		
1.2 Supply-pump pressure	1600	6,4-7,0	bar (kgf/cm²)		
1.3 Full-load delivery with			cm ³ /1000 strokes		
charge-air pressure Full-load delivery without	1600	37,5-38,5	cm³/1000 strokes		2,5 (3,0)
charge-air pressure 1.4 Idle regulation	500	6,0-10,0	cm ³ /1000 strokes		2,5 (3,0)
1.5 Full-speed regulation	1850	17,0-23,0	cm ³ /1000 strokes		
1.6 Start	100	min. 38,0	cm ³ /1000 strokes		
1.7 Load-dependent port-closing					,

2. Test Specifications checking values in brackets ()							
2.1 Timing device	n = rev/min mm	1000 0,8-1,6 (0,5-1,9)	1600 (3,6-5,0)	1800 5,1-5,9 (4,8-6,2)			
2.2 Supply pump	n = rev/min bar (kgf/cm²)	400 1,7-2-3	;	1800 7,2-7,8			
Overflow delivery n = rev/min cm ³ /10 s		500 55-110 (40-125)	1800 55-110 (40-125)				
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~							

2.3 Fuel deliveries					3. Dimen	for assembly	
Speed control lever	Rot. speed rev/min	Fuel delivery cm ³ /1000 strokes		Charge-air press. bar (kgf/cm²)	Designation	and adjustment mm	
End stop	1970 1900 1850 1750 1600 1000 600	39,0-42,0	(16,0-24,0) (33,7-38,3) (35,7-40,3) (38,2-42,8) (30,5-36,5)		K KF MS SVS	5,9-6,1 0,9-1,1 max. 4,2	
switch-off	1800	0			XK XL	20,2-22,2	
End stop	500 530 600 450	min. 2,0 max. 2,0 min. 43,0	(4,0-12,0)		Observations pushing electronagnet		
2.4 Solenoid	550	max. 43,0	0.0 V				

voltage 12

Test Specifications Distributor-type Fuel-injection Pumps

WPP 001/4 VWW 2,0 a

4. Edition

VE 5/10 F 2400 L 35 (P) 0 460 405 001; ... 002

supersedes VWW company:

engine: 153 Audi 100

Testoil-ISO 4113

Overflow temperature 45° C

All test specifications are valid only for Bosch Fuel injection Pump Test Benches and Testers ± 0,02 (0,04)

Test Instructions and Test Equipment

0,14 Pre-stroke setting

see VDT-W-460/...

1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel 1.2 Supply-pump pressure	1400 1400	2,4-2,8 5,0-5,6	mm bar (kgf/cm²)		
1.3 Full-load delivery with charge-air pressure Full-load delivery without charge-air pressure	1400	32,5-33,5	cm ³ /1000 strokes		2,5 (3,0) 2,0 (3,0)
1.4 Idle regulation 1.5 Full-speed regulation	375 2650	6,0-10,0 6,0-12,0	cm ³ /1000 strokes		2,0 (3,0)
1.6 Start 1.7 Load-dependent port-closing	100	min.50,0	cm್/1000 strokes		

2. Test Spe	CITICATIONS	checking values in bra	ckets ()			
2.1 Timing device	n = rev/min mm	1000 1,3-2,1(1,0	-2,4) (1400 1,9-3,3)	2400 5,1-5,9(4,	8-6,2)
2.2 Supply pump	n = rev/min bar (kgf/cm²)	500 2,8-3,4			2400 7,3-7,	9
Overflow delivery	n = rev/min cm ³ /10 s	500 55-138(40-1	53)		2400 55-138(40	-153)
2.3 Fuel deliveries	<u>. L </u>				3. Dimens	tor assembly
Speed control lever	Rot. speed rev/min	Fuel delivery cm ³ /1000 strokes		Charge-air press. bar (kgf/cm²)	Designation	and adjustment mm
End slop	2650 2500 2400 1400 750	27,0-29,0 23,3-26,3	(5,0-13,0) (24,0-32,0) (25,7-30,3) (30,7-35,3) (21,8-27,8)		K KF MS SVS	5,7-5,9 1,7-1,9 max. 3,0
switch-off					XK	18,5-20,5
electr.	400	0			XL	9,0-12,5
idle stop	500 375	max. 3,0	(4,0-12,0)		Observations	
End stop	400 500	min. 15,5 max. 23,5				
2.4 Solenoid	cut-in voitage	min. 10	· .			

BOSCH

(B)

Test Specifications Distributor-type Fuel-injection Pumps

WPP 001/4 VWW 2,0 a 1

3. Edition

VE 5/10 F 2400 L 35-2 (P) 0 460 405 003; ... 004

supersede VWW company: VWW

engine: 153 Audi 5000 (USA)

Overflow temperature 45° C

Test instructions and Test Equipment

see VDT-W-460/...

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

± 0,02 (0,04) 0,14 Pre-stroke setting

1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference In delivery cm ³
1.1 Timing device travel	1400	2,4-2,8	mm		
1.2 Supply-pump pressure	1400	5,0-5,6	bar (kgf/cm²)		
1.3 Full-load delivery with			cm ³ /1000 strokes		
charge-air pressure Full-load delivery without	1400	32,5-33,5	cm³/1000 stroķes	}	2,5 (3,0)
charge-air pressure 1.4 fdie regulation	375	6,0-10,0	cm ³ /1000 strokes		2,0 (3,0)
1.5 Full-speed regulation	2650	6,0-12,0	cm³/1000 strokes		
1.6 Start	100	min.50,0	cm ³ /1000 strokes		
1.7 Load-dependent port-closing	-	-	· ·		

2. Test Spe	cifications	checking values in b	rackets ()		····	
2.1 Timing device	n = rev/min mm	1000	0-2,4) (1400 1,9-3,3)	2400 5,1-5,9(4,	,8-6,2)
2.2 Supply pump	n = rev/min bar (kg!/cm²)	500 2,8-3,4			2400 7,3-7,9)
Overflow delivery	n = rev/min cm ³ /10 s	500 55-138(4	0-153)		2400 55-138(40)-153)
2.3 Fuel deliveries		<u></u>			3. Dimen	for assembly
Speed control lever	Rot. speed rev/min	Fuel delivery cm ³ /1000 strokes		Charge-air press. bar (kgf/cm²)	Designation	and adjustment mm
End stop	2650 2500 2400 1400 750	27,0-29,0	(5,0-13,0) (24,0-32,0) (25,7-30,3) (30,7-35,3) (21,8-27,8)		K KF MS SVS	5,7-5,9 1,7-1,9 max. 3,0
switch-off					XL	18,5-20,5
electr.	400	0			XL	9,0-12,5
idle stop	500 375	max. 3,0	(4,0-12,0)		Observations	
Endanschlag	400 500	min. 15,5 max. 23,5				
2.4 Solenold	cut-in veitag	min.	10,0 V ge 12 V.		\(\frac{1}{2}\)	

Geschäftsbereich KH. Kundendienst. Kfz-Auerüstung.
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4113

Testoil-ISO

Test Specifications Distributor-type Fuel-injection Pumps

WPP 001/4 VWW 2,0 c

3. Edition

VE 5/10 F 2400 L 35-6 (P)

0 460 405 027:

Overflow temperature 45° C

supersedes10.82

company: VWW

153 Audi 100 Aut. engine:

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

0,14 mm

0,02 (0,04)

Test Instructions and Test Equipment

0,14 _{mm}

1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel 1.2 Supply-pump pressure	1400 1400	2,4-2,8 5,0-5,6	mm bar (kgf/cm²)		·
1.3 Full-load delivery with charge-air pressure Full-load delivery without charge-air pressure 1.4 Idle regulation	1400 375	32,5-33,5 6,0-10,0	cm³/1000 strokes cm³/1000 strokes cm³/1000 strokes		2,5 (3,0 2,0 (3,0
1.5 Full-speed regulation 1.6 Start	2650 100	6,0-12,0 min. 50,0	cm ³ /1000 strokes		
1.7 Load-dependent port-closing					

2. Test Spec	n = rev/min	1000		1400		2400
2.1 Inning device	mm		1,0-2,4)	(1,9-3,3)	5,1-5	,9 (4,8-6,2)
2.2 Supply pump	n = rev/min bar (kgf/cm²)	500 2,8-3,4	-		400 -7,9	
Overflow delivery	n = rev/min cm ³ /10 s	500 55-138 ((40-153)	_	400 (40-153)	
2.3 Fuel deliveries		<u> </u>			3. Dimen	tor assembly
Speed control lever	Rot. speed rev/min	Fuel delivery cm ³ /1000 strokes		Charge-air press. bar (kgf/cm²)	Designation	and adjustment mm
End stop	2650 2500 2400 1400 750	24,5-31,5 27,0-29,0 23,3-26,3	(25,7-30, (30,7-35,	0) 3) 3)	K KF MS SVS	5,7-5,9 1,7-1,9 max. 3,0
switch-off mech. electr.	2400 400	0 0			XK . XL	18,5-20,5 9,0-12,5
tdle stop	500 375	max. 3,0	(4,0-12,0)		Observations Mechanica	Stop contro
End stop	400 500	min. 15,5 max. 23,5				
2.4 Solenoid	cut-in voltage	min. 10		L		

WPP 001/4 RVI 3,6 a 1

3. Edition

VE 4/12 F 1500 R 51-1 0 460 424 005

Overflow temperature 45° C

supersede9.83 company: RVI-Renault engine: 720 S

Testoil-ISO 411

Alt test specifications are valid only for Bosch Fuel-Injection Pump Test Benches and Testers

Test Instructions and Test Equipment

see VDT-W-460/...

Pre-stroke setting mm

1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
	1000	3,3-3,7	mm	0,8	
1.1 Timing device travel	1000	4,7-5,3	bar (kgf/cm²)	0,8	
1.2 Supply-pump pressure	1000	87,5-88,5	cm ³ /1000 strokes	0,8	4,0 (4,5)
1.3 Full-load delivery with charge-air pressure	500	66,5-67,5	cm³/1000 strokes	0	
Full-load delivery without charge-air pressure 1.4 Idle regulation	325	14,0-20,0	cm ³ /1000 strokes	0	3,5 (4,5)
1.5 Full-speed regulation	1650	17,0-23,0	cm ³ /1000 strokes	0,8	
1.6 Start	100	min.100,0	cm ³ /1000 strokes	0 -	
1.7 Load-dependent port-closing	-	-			

2. Test Spec	cifications	checking values in b	rackets ()				
2.1 Timing device LDA=0,8bar	n = rev/min	750 1,3-2,1(1,	0-2,4) (1000 2,8-4,1)	1500 6,1-6,9(5,8-7,2)		
2.2 Supply pump LDA=0,8bar	n = rev/min bar (kgf/cm²)	300 1,7-2,	.3	1500 6,7-7	,3		
Overflow delivery	n = rev/min cm ³ /10 s	500 55-138(40)-153)		1500 55-138(40	0-153)	
2.3 Fuel deliveries		15 at deliver		Charge-air press.	3. Dimen	SIONS for assembly and adjustment	
Speed control lever	Rot. speed rev/min	Fuel delivery cm ³ /1000 strokes		bar (kgf/cm²)	Designation		
end stop qofe switch~off	1700 1650 1600 1500 1000 750 600 * 500	max. 3,0 53,0-61,0 84,0-87,0 85,0-88,0 76,5-77,5	(15,0-25,0) (52,0-62,0) (82,5-88,5) (85,0-91,0) (83,5-89,5) (74,0-80,0) (63,2-70,8)	0,8 0,8 0,8 0,8	K KF MS SVS XK XL	3,2-3,4 5,7-5,9 1,4-1,6 max. 6,0 20,1-22,1 12,6-16,4	
idle stop	400 325	max. 5,0	(12,0-22,0)		Observations 24 V Pul electrom	ling	
End stop	200 350	min. 90,0 max. 90,0			Use adju	oke 4,5 mm usting nut correct.	
2.4 Solenaid	çut-in voltaç	min.	22.0 V age 24.0 V				

WPP 001/4 IHC 5,8 t

4. Edition

VE 6/12 F 1350 R 64

Nozzle-and-holder assembly

1 688 901 020

supersedes 7.84 company: IHC

D 358/PC 11

0 460 426 016

172 + 3 bar

Setting of the pointer at a stroke of 1 mm in

relation to outlet "A"

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

Pre-stroke setting

mm Overflow temperature 45° C

1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
A A Timber device Accept	1150	5,2-5,6	mm		
1.1 Timing device travel 1.2 Supply-pump pressure	1150	5,6-6,2	bar (kgf/cm²)		
1.3 Full-load delivery with	-	-	cm ³ /1000 strokes		
charge-air pressure Full-load delivery without	1150	84,0-85,0	cm³/1000 stroķes		3,5 (4,5)
charge-air pressure	500	14,5-20,5	cm ³ /1000 strokes		3,5 (4,5)
1.5 Full-speed regulation	1400	44 ,9-50 ,0	cm ³ /1000 strokes		
1.6 Start	100	min.100,0	cm³/1000 strokes		
1.7 Load-dependent port-closing	-	-			

2. Test Spe	cifications	checking values in brackets ()				
2.1 Timing device	n = rev/min mm	600 1,6-2,4(1,3-2,7) (4	1150 ,7-6,1)	1300 5,3-6,1(5,0-6,4)		
2.2 Supply pump	n = rev/min bar (kgf/cm²)	400 2,7-3,3		1300 6,0-6,6		
Overflow delivery	n = rev/min cm ³ /10 s	500 55-138(40-163)		1350 55-138(40)-158)	
2.3 Fuel deliveries	<u>. I</u>	L		3. Dimens	BIONS for assembly and adjustment	
Speed control lever	Rot. speed rev/min	Fuel delivery cm ³ /1000 strokes	Charge-air press. bar (kgf/cm²)	Designation	mm	
End stop	1510 1450 1400	max. 1,0 9,0-17,0 (8,0-18,0) (42,0-52,0)		K KF	3,2-3,4 5,7-5,9	
	1300 1150	80,0-83,0 (78,5-84,5) (81,5-87,5)		MS	1,0-1,2	
	800	77,0-81,0 (76,0-82,0)		svs	max.6,0	
	500	65,0-70,0(63,7-71,3)		.	00 0 00 0	
switch-off	1350	0		XK XL	20,2-22,2	
idie stop	570 520 500	max. 1,0 min. 4,0 (12,5-22,5)		Observations	. 	
End stop	250 350	min. 100 max. 80				
2.4 Solenoid	cut-in voltage	min. 10 V rated voltage 12 V.				

WPP 001/4 VWW 1,6 d 4. Edition

VE 4/9 F 2400 R 66-8, R 66-8 P

0 460 494 077

Pre-stroke setting

1.7 Load-dependent port-closing

7.82 supersedes VWW

1,6 1 Rabbit

Overflow temperature 45° C

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers mm

Test Instructions and Test Equipment

1. Settings	Rot. speed rev/min	Settings	Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel	1500	2,9-3,3 mm		
1.2 Supply-pump pressure	1500	4,9-5,5 bar	(kgf/cm²)	
1.3 Full-load delivery with	1500	30,0-31,0 cm ³	/1000 strokes	2,5(3,0)
charge-air pressure Full-load delivery without		_ cm ³	/1000 strokes	
charge-air pressure 1.4 idle regulation	415	7,0-11,0 cm ³	7/1000 strokes	2,5(3,0)
1.5 Full-speed regulation	100	min.38,0 cm ³	7/1000 strokes	1
1.6 Start	2600	11,0-17,0 cm ³	7/1000 strokes	,

2. Test Spe	cifications	checking values in bra	ickets ()			
2.1 Timing device	n = rev/min mm	1,3-2,1(1		1500 (2,4-3,8)	2400 6,1-6,9(5,8-7,2)	
2.2 Supply pump	n = rev/min bar (kgf/cm²)		400 2 ,1- 2 , 7		2400 7,0-7,	
Overflow delivery	n = rev/min cm³/10 s	50 55 -1 38	0 (40-123)		2400 55 -1 38(4	_
2.3 Fuel deliveries					3. Dimen	SIONS for assembly and adjustment
Speed control lever	Rot. speed rev/min	Fuel delivery cm ³ /1000 strokes		Charge-air press. bar (kgf/cm²)	Designation	mm
End stop . switch-off	2700 2600 2400 1500 600	2,5-9,5 26,0-28,0 17,5-20,5	(2,0-10,0) (10,0-18,0) (24,7-29,3) (28,2-32,8) (16,0-22,0)		K KF MS SVS *	3,2-3,4 5,7-5,9 1,3-1,5 max.2,5 1,8-2,4 18,4-20,4
electr.	400	0			XL ·	10,5-13,8
Idle stop	1200 600 415 400 500	max. 5,0 max. 6,0 min. 13,5 max. 19,5			* operat	ing stroke start accel.)
2.4 Solenoid	cut-in voltag	-	10,0 V			

WPP 001/4 VMA 2,2 a 1 2. Edition

En

Testoil-iSO 4113

VE 4/10 F 2100 L 75-1 0 460 404 034

Pre-stroke setting

Overflow temperature 45° C

supersedes 5.84

company: engine:

VM-Motorri HR 492 HT

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

2. Test Specifications checking values in brackets (

Test Instructions and Test Equipment

1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel	1600	5,3 - 5,7	mm	0,8	
1.2 Supply-pump pressure	1600	5,8 - 6,4	bar (kgf/cm²)	0,8	
1.3 Full-load delivery with	1600	47,5-48,5	cm ³ /1000 strokes	0,8	max. 3,0
charge-air pressure Full-load delivery without	600	35,0-36,0	cm ³ /1000 stroķes	0	
charge-air pressure 1.4 Idle regulation	400	15,0-19,0	cm ³ /1000 strokes	0	max. 3,8
1.5 Fuil-speed regulation	2300	24,5-30,5	cm ³ /1000 strokes	0,8	
1.6 Start	100	min. 50	cm³/x000 strokes	0	
1.7 Load-dependent port-closing	-				<u>i </u>

A A 81 -1	n = rev/min	1000	1600	2100	
2.1 Timing device LDA = 0,8 bar		1,7-2,5 (1,4-2,8)			,9
2.2 Supply pump LDA = 0,8 bar Overflow delivery	n = rev/min	400	7,5-	2100	
2.3 Fuel deliveries	cm ³ /10 s	55-138 (40-153)	55-138	3 (40-153) 3. Dime r	nsions
Speed control lever	Rot. speed rev/min	Fuel delivery cm³/1000 strokes	Charge-air press. bar (kgf/cm²)	Designation	for assembly and adjustment mm
End stop	2450 2300 2100 1600 1600 * 700 600	max. 7,0 (23,5-31 41,5-44,5(40,8-4) 31,5-34,5(30,8-3) (45,8-5) 43,5-45,5(42,3-4) (33,3-3)	5,2) 0,8 5,2) 0 0,2) 0,8 6,7) 0,3	K KF MS SVS	3,3 5,7-5,9 0,7-0,9 3,8
switch-off				XK XL	20,2-22,2
Idle stop	550 450 400 400 500	max. 2,0 min. 2,0 (13,0-21 min. 45 max. 37	,0)	Observations * LDA-str Use adj	roke 4,2 mm justing nut correct.
2.4 Solenoid	cut-in voiting	<u> </u>			

Test Specifications Distributor-type Fuel-injection Pumps 40

WPP 001/4 Ope 1,6 d

6. Edition

VE 4/9 F 2300 R 82;

VE ... R 82-1

supersedes 08.84 company: Ope1

0 460 494 071

0 460 494 114

engine: 2033-1,6 1

Overflow temperature 45° C

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

Pre-stroke setting mm

see VDT-W-460/...

1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel	1500	3,1-3,5	mm		
1.2 Supply-pump pressure	1500	5,0-5,6	bar (kg1/cm²)		
1.3 Full-load delivery with	-		cm³/1000 strokes		2,5
charge-air pressure Full-load delivery without	1500	29,0-30,0	cm³/1000 stroķes		
charge-air pressure 1.4 Idle regulation	450	6,0-10,0	cm³/1000 strokes		2,5
1.5 Full-speed regulation	2625	17,0-23,0	cm³/1000 strokes		
1.6 Start	100	min. 40,0	cm ³ /1000 strokes		
1.7 Load-dependent port-closing	**				

2. Test Spe	T	checking values in brackets	s()	1500		2300
2.1 Timing device	n = rev/min mm	1200 1,5-2,3 (1,2-2,	,6)	(2,6-4,0)		(6,2-7,6)
2.2 Supply pump	n = rev/min bar (kgf/cm²)	600 2,4-3,0				2300 3-7,9
Overflow delivery	n = rev/min cm ³ /10 s	500 55-138 (40-153))		55-138 (4	2300 0-153)
2.3 Fuel deliveries		· 			3. Dimen	BIONS tor assembly and adjustment
Speed control lever	Rot. speed rev/min	Fuel delivery cm ³ /1000 strokes		Charge-air press. bar (kgf/cm²)	Designation	mm
End stop	3000 2785 2625 2300 1500 600	(16) (27,1-29,1 (25)	,2-31,8		K KF MS SVS	3,2-3,4 5,7-5,9 1,2-1,4 max. 2,0 1,8-2,4
switch-off	2300	0			XK XL	22,3-23,3
Idle stop End stop	1200 650 450 350 500	max. 1,0 2,0-7,0 (0,5 (4,0 min. 28 max. 28	5-8,5) 0-12,0)			g stroke art accel.) VDT-I-460/138
2.4 Solenoid	cut-in voltag	min. 10 vated voltage 12	•			

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WPP 001/4 STE 4,0 K 2. Edition

<u>En</u>

VE 4/11 F 1200 R 94-2 0 460 414 014

Note VDT-I-460/139

(FD 442)

Overflow temperature 45° C

supersedes8 • 84

company: engine: Steyr

WD 411.45

47 kW

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

see VDT-W-460/..

Pre-stroke setting

– mm

1. Settings	Rot. speed rev/min	Settings	Charge-air press. bar (kg1/cm²)	Difference in delivery cm ³
1.1 Timing device travel	800	3,4 - 3,8 _{mm}		
1.2 Supply-pump pressure	800	4,7 - 5,3 · bar (kgf/cm²)		
1.3 Full-load delivery with	-	- cm ³ /1000 strokes		
charge-air pressure Full-load delivery without	800	68,5=69,5 cm ³ /1000 strokes	: 🖡	3,0 (3,5)
charge-air pressure 1.4 Idle regulation	300	21,0 - 25,0 cm ³ /1000 strokes		3,0 (4,0)
1.5 Full-speed regulation	1300	19,0 - 25,0 cm ³ /1000 strokes		0,0 (4,0)
1.6 Start	100	min. 78,0 cm ^{3/1000} strokes	3	
1.7 Load-dependent port-closing	_			

2. Test Spe	2. Test Specifications checking values in brackets ()						
2.1 Timing device	n = rev/min mm	500 0,7-1,5 (0,4-1,8)	800 (2,9-4,3)	1200 6,6-7,4 (6,3-7,7)			
2.2 Supply pump	n = rev/min bar (kgf/cm²)	500 3,2-3,8		1200 6,5-7,1			
Overflow delivery	n = rev/min cm³/10 s	500 55-138 (40-153)	55-	1200 -138 (40-153)			

2.3 Fuel deliveries			
Speed control lever	Rot. speed rev/min	Fuel delivery cm²/1000 strokes	Charge-air press. bar (kgf/cm²)
End stop	1340 1300 1250 1180 800 500	max. 3,0 (17,5-26,5) 51,0-59,0 (50,5-59,5) 68,0-70,0 (66,3-71,7) (66,3-71,7) 64,5-67,5 (62,6-69,0)	
switch-off			
End stop	400 350 300 170 250	max. 1,5 5,0-11,0 (3,5-12,5) (18,5-27,5) min. 78 min. 65	
2.4 Solenoid	max. cut-in voltage test voltage		

3. Dimer	nsions
Designation .	for assembly and adjustment mm
K	3,3
KF	5,3
MS	1,0
svs	4,0
A	
8	
Observations	
	8

BOSCH

BAS

Test Specifications Distributor-type Fuel-injection Pumps

WPP 001/4 PEU 1,9 a

2. Edition

VE 4/9 F 2300 R 114

Overflow temperature 45° C

supersedes

0 460 494 112

company: engine:

Peugeot XUD 9

11.82

DHK: 1 688 901 022/130 bar

Fuel injection test tubing 1 680 750 073

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

2000

see VDT-W-460/...

Pre-stroke setting

2.1 Timing device

2. Test Specifications checking values in brackets (

n = rev/min

700

1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
A A State of Assistant Amount	2000	7,8-8,2	mm		
1.1 Timing device travel 1.2 Supply-pump pressure	1250	3,9-4,5	bar (kgf/cm²)		
1.3 Full-load delivery with	4050	28,8-29,8	cm ³ /1000 strokes	İ	2,5 (3,0)
charge-air pressure Full-load delivery without	1250	20,0-29,0	cm ³ /1000 strokes		2,5 (5,0)
charge-air pressure 1.4 (die regulation	400	4,0-8,0	cm ³ /1000 strokes		2,5 (3,0)
1.5 Full-speed regulation	2400	19,3-25,3	cm³/1000 strokes		
1.6 Start	100	min.44,0	cm ³ /1000 strokes		
1.7 Load-dependent port-closing	2000	-			

1250

S. 1 Huming ogaica	14 - 164111111	700	1200		
	mm	0,5-1,5 (0,3-1,7)	3,4-4,2 (3,1-4	,5) (7,3	-8,7)
2.2 Supply pump	n = rev/min	700		2000	
	ber (kgf/cm²)	2,3-2,9		5,9-6,5	
Overflow delivery	n = rev/min	600		23	00
	cm ³ /10 s	55-138 (40-153)		55-1	38 (40-153)
2.3 Fuel deliveries				3. Dimen	Sions for assembly and adjustment
Speed control lever	Rot. speed rev/min	Fuel delivery cm³/1000 strokes	Charge-air press. ber (kgf/cm²)	Designation	mm
End stop	2650	max. 7,0	7 7)	K	3,3
	2500 2400	10,7-16,7 (9,7-1)	6.3)	KF	5,7 - 5,9
	2250	(18,3-2 28,9-30,9 (27,6-3	2,2)	MS	1,3 - 1,5
	2000 1250 700	29,7-31,7 (28,4-3 (27,0-3 29,5-32,5 (28,0-3	1,6)	svs	max. 4,0
					10 0 20 0
switch-off				A XK	18,9-20,9
				B XL	9,6 -13,0
idle stop	400	(2,0-	10,0)	Observations	
	450	max. 5,0			
End stop	250	min. 40			
	500	max. 35			
2.4 Solenoid	cut-in volta	min. 10 V			

WPP 001/4 FIA 1,7 h

3. Edition

VE 4/10 F 2050 R 124

Overflow temperature 45° C

supersedes

9.83 Fiat company: 8144-81 engine:

0 460 404 031

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

see VDT-W-480/...

Pre-stroke setting

0,2

+ 0.02 (0.04)

1. Settings	Rot. speed rev/min	Settings	Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel	1500	5,3 - 5,7 mm	0,75	
1.2 Supply-pump pressure	1500	6,1 - 6,7 bar (kgf/cm²)	0,75	
1.3 Full-load delivery with	1500	61,5 - 62,5 cm ³ /1000 stn	0,75	3,0 (3,5)
charge-air pressure Full-load delivery without	600	43,5 - 44,5 cm ³ /1000 str	okes 0	† :
charge-air pressure 1.4 Idle regulation	350	12,5 - 16,5 cm ³ /1000 str	okes 0	3,0 (3,5)
1.5 Full-speed regulation	2200	40,0 - 46,0 cm ³ /1000 str	okes 0,75	
1.6 Start	100	min. 60,0 cm ^{3/1000} str	okes 0	
1.7 Load-dependent port-closing	1500	-		!

2. Test Spe	cifications	checking values in brackets ()	
2.1 Timing device	n = rev/min mm	600 (0,75 bar) 0,9-1,7 (0,6-2,0)	1500 (0,75 bar) (4,8-6,2)	2050 (0,75 bar) 7,6=8,4 (7,3-8,7)
2.2 Supply pump	n ≠ rev/min bar (kgf/cm²)	400 (0 bar) 3,4-4,0	600 (0 bar) 4,0-4,6	2050 (0,75 bar) 7,4-8,0
Overflow delivery	n = rev/min cm³/10 s	600 28-83 (13-98)		2050 (0,75 bar) 55-138 (40-153)
2.3 Fuel deliveries	18-4	I Fred data		Dimensions tor assembly and adjustment

		28-83 (13	-98)		22.	-130 (40-133
2.3 Fuel deliveries					3. Dimen	SIONS tor assembly and adjustment
Speed control lever	Rot. speed rev/min	Fuel delivery cm ³ /1000 strokes		Charge-air press. bar (kgf/cm²)	Designation	mm
End stop	2400 2300	max 2,0	(15 5-24 5)	0,75 0,75	K	-
	2200	10,0-24,0	(15,5-24,5) (38,5-47,5)	0,75	KF	5,7 - 6,
	2050 1500	53,1-56,1	(51,9-57,3) (59,3-64,7)	0,75	MS	1,2 - 1,
	*800 600	53,5-54,5	(50,6-57,4) (40,0-47,4)		svs	3,
•			-81			
switch-off					XK	25,0 -27,
	2050	0			XL	9,8 -13,
ldle stop	350 450 500	max. 3,5 max. 2,0	(10,0-19,0)		Use ad:	roke 3,8 mm justing nut o correct.
End stop	350 450	min. 55 max. 55			(40) (
2.4 Solenoid	cut-in volta	min.	10 V			

BOSCH

rated voltage 12 V

5,7 - 6,01,2 - 1,4

25,0 -27,0

9,8 -13,1

3,2

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WPP 001/4 FOR 1,6 a 2. Edition

<u>En</u>

VE 4/9 F 2400 R 125

Overflow temperature 45° C

supersedes2.84 company: Ford

engine:

0 460 494 122 DHK 1 688 901 022/130 bar

Fuel injection test tubing 6x2x450 mm/1 680 750 073

2. Test Specifications checking values in brackets (

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

Kent Diesel

see VDT-W-460/...

Pre-stroke setting

1. Settings	Rot. speed rev/min	Settings		Charge-air press bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel	1500	4,3-4,7	mm		
1.2 Supply-pump pressure	1500	5,3- 5,9	bar (kgf/cm²)		
1.3 Full-load delivery with	-	-	cm³/1000 strokes		
charge-air pressure Full-load delivery without	1750	28,4-29,4	cm ³ /1000 strokes		2,5 (3,0)
charge-air pressure 1.4 Idle regulation	420	9,0-13,0	cm³/1000 strokes		2,0 (3,0)
1.5 Full-speed regulation	2675	10,4-16,4	cm³/1000 strokes		
1.6 Start	100	min. 50,0	cm³/1000 strokes		
1.7 Load-dependent port-closing	_				1

2.1 Timing device	n = rev/min	800	1500	2000	
	mm	1.0-1.8(0.7-2.1)	(3.8-5.2)	5,4-7,2(6,1-	7,5)
2.2 Supply pump	n = rev/min bar (kgf/cm²)	600 3,1-3,7		2000 6,6-7,2	
Overflow delivery	n = rev/min cm³/10 s	500 55-138(40-153)	5:	2400 5-138(40-153)
2.3 Fuel deliveries				3. Dimer	ISIONS
Speed control lever	Rot. speed rev/min	Fuel delivery cm³/1000 strokes	Charge-air press.	Designation	and adjustment mm
End stop	2950 2675 2550 2400 1750 1000 600	max. 2,0 (9,4-17,4 19,5-25,5 (18,5-26,5 27,7-29,7 (26,4-31,6 (26,6-31,5 24,8-27,8 (23,3-29,5 23,4-26,4 (21,9-27,5	5) 0) 2) 3)	K KF MS SVS	3,2-3,4 5,7-6,0 1,6-1,85 3,4
switch-off	2400	0		XK XL	23,3-25,3
Idle stop	570 475 420	max. 2,5 3,3-7,3 (1,3-9,3) (7,0-15,0)		cold-start	rstion of hydr accel. Do any voltage

BOSCH

2.4 Solenoid

End stop

400

500

cut-in voltage

min. 30,0

max. 30,0

min. 10 V

rated voltage 12 V.

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to expansion element.

device travel of

be obtained.

2.2 - 2.4 mm must

At 600 min/1 a timing-

40

WPP G01/4 PEU 2,3 k 1 3. Edition

Eh

VE 4/9 F 2075 R 126-2 Overflow temperature 45° C 0 460 494 155

supersedes company: engine: 1.85 Peugeot XD 3 S

DHK 1 688 901 022/130 bar

Fuel injection test tubing 6x2x450 mm/1 680 750 073

(Special vehicle)

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

2. Test Specifications checking values in brackets (

Test Instructions and Test Equipment

Pre-stroke setting — m

1. Settings	Rot. speed rev/min	Settings	Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel	1500	5,8 - 6,2 _{mm}	0,8	
1.2 Supply-pump pressure	1500	5,6 - 6,2 bar (kgf/cm²)	0,8	
1.3 Full-load delivery with	1500	52,5 - 53,5 cm ³ /1000 strokes	0,8	2,5 (3,0)
charge-air pressure Full-load delivery without	500	41,3 - 42,3 cm ^{3/1000 strokes}	0	
charge-air pressure 1.4 Idle regulation	350	20,0 - 24,0 cm ³ /1000 strokes	0	2,0 (3,0)
1.5 Full-speed regulation	2300	26,5 - 32,5 cm ³ /1000 strokes	0,8	
1.6 Start	100	min. 67,0 cm ^{3/1000} strokes	0	
1.7 Load-dependent port-closing				

2.1 Timing device	n = rev/min	750		1000	1500	2000
LDA=0,8 bar	mm	0,8-1,6(0,	5-1,9) 2,5 <i>-</i> 3	,3(2,7-3,6)	(5,3-6,7) 7	<u>,8-8,6(7,5-8</u>
2.2 Supply pump	n = rev/min	200	7	50	2000	
1D4_0 0 bas	bar (kgf/cm²)	1,4-2,0	3,4-	4,0	7,1-7,7	
LDA=0,8 bar Overflow delivery	n = rev/min	500			2075	
·	cm ³ /10 s	42-83 (27-	98)	55-	138 (40-153)	
2.3 Fuel deliveries	· L	<u></u>			3. Dimens	sions for assembly
Speed control lever	Rot. speed rev/min	Fuel delivery cm ³ /1000 strokes	•	Charge-air press. bar (kgf/cm²)	Designation	and adjustment mm
End stop	2600	max. 1,0		0,8		
	2300	1	(25,5-33,5)		K	
	2200	39.5-45.5	(38,5-46,5)		KF	K 1
	2000	51,0-53,0	(49,7-54,3)	0,8	MS	5,4 - 5,7
	1500		(50.7-55.3)	0.8	0.00	1,2 - 1,4
	1000	48,5-51,5	(47,7-52,3)	0,8	svs	1
	750* 500	46,1-47,1	(44,3-48,9) (38,8-44,8)	0,25		4,6
	300	<u> </u>	(00,0-14,0)		XK	20,2 -22,2
switch-off					^K	20,2 -22,2
electr.	490	0			XL	9,3 -12,6
idle stop					Observations	
•	500	max. 1,0	/C 0 44 0)		* LDA-stro	oke 4,5 mm
	400 350	8,0-12,0	(6,0-14,0)			usting nut
· Fmd atam	1	min 60	(18,0-26,0)			correct.
End stop	230 330	min. 60 max. 60			1 -	electro-
	330	iliax. Ou		}	magnet	
2.4 Solenoid	cut-in voltag	111747	. 22,0 V	V. 2		

WPP 001/4 SOF 2,5 k 1

1. Edition

supersedes

company:

engine:

VE 4/11 F 1900 R 127-1 Overflow temperature 45° C

0 460 414 026

DHK: 1 688 901 023/172 + 3 bar

Fuel injection test tubing 1 680 750 073 6x2x450 mm

All test specifications are valid only for Bosch Fuel-Injection Pump Test Benches and Testers

Test Instructions and Test Equipment

Iveco-Sofim

8140.21.210

Pre-stroke setting

0,3 mm

+0,02(0,04)

see VDT-W-460/

1. Settings	Rot. speed rev/min	Settings		Charge air press bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel	1100	4,6 - 5,0	mm	1,0	
1.2 Supply-pump pressure	1100	5,1 - 5,7	bar (kgf/cm²)	1,0	
1.3 Full-load delivery with	1100	44,7 - 45,7	cm ³ /1000 strokes	1,0	3,5 (4,0)
charge-air pressure Full-load delivery without	500	38,5 - 39,5	cm ³ /1000 strokes	0	
charge-air pressure 1.4 Idle regulation	400	13,0 - 17,0	cm ³ /1000 strokes	0	3,0 (4,0)
1.5 Full-speed regulation	2300	15,0 - 21,0	cm ³ /1000 strokes	1,0	
1.6 Start	100	min. 60,0	cm ³ /1000 strokes	0	
1.7 Load-dependent port-closing	1100	-		0	

2. Test Spec	cifications	checking values in t	orackets ()			and the second s
2.1 Timing device	n = rev/min	800	1100 -3,9) (4,1-5			1900 6-8 417 3-8
LDA=1,0 bar 2.2 Supply pump LDA=1,0 bar	n = rev/min bar (kgf/cm²)	60 3,6-4	0	,5/ 0,1-0,5	1900 7,2-7,8	0-0,4(7,0-0,
Overflow delivery	n = rev/min cm ³ /10 s	600 42-83 (27	⁻ -98)		1900 55-198 (40	-153)
2.3 Fuel deliveries					3. Dimen	SIONS tor assembly and adjustment
Speed control lever	Rot. speed rev/min	Fuel delivery cm ³ /1000 strokes		Charge-air press bar (kgf/cm²)	Designation	mm
End stop	2450 2300 2100 1900 1500 1100 900* 500	max. 5,0 30,0-38,0 41,5-44,1 42,2-44,8 37,5-38,5 50,8-54,3	(42,6-47,8)	1,0 1,0 1,0 1,0 1,0 0,4 1,0	K KF MS SVS	5,2-5,4 0,9-1,1 4,6
switch-off					XK XL	17,0-19,0
idie stop End · stop	550 400 350 200 350	max. 5,0 27,0-33,0 min. 70,0 mx. 70,0	(10,5-19,5 (25,5-34,5	3	Observations	stroke 6,2mm
2.4 Solenoid	cut-in voltag	• m -rated volta	in. 22,0 V			

Bosch

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WPP 001/4 IHC 3,9 y

4. Edition

VE 4/11 F 1150 R 140 0 460 414 009 DHK 1 688 901 020

Overflow temperature 45° C

7.84 IHC

ringine:

DT 239/856

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

Pre-stroke setting

0,2

± 0,02 (0,04)

1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference delivery	
1.1 Timing device travel	800	4,5 - 4,9	mm	0,8		
1.2 Supply-pump pressure	800	5,3 - 5,9	bar (kgf/cm²)	8,0		
1.3 Full-load delivery with	800	92,2-93,2	cm³/1000 strokes	0,8	3,5	(4,0)
charge-air pressure Full-load delivery without	500	75,5 - 77,5	cm³/1000 strokes	0		
charge-air pressure 1.4 Idle regulation	350	23,0 - 27,0	cm³/1000 strokes	0	3,5	(4,0)
1.5 Full-speed regulation	1270	22,0-28,0	cm³/1000 strokes	0,8		
1.6 Start	100	min. 100	cm³/1000 strokes	0		
1.7 Load-dependent port-closing	_	-				

2. Test Spec	itications	checking vলিগ্নে in brackets ()		
2.1 Timing device	n = rev/min	400	800	5.0	1150 1 (5,0 - 6,4)
LDA = 0.8 ba	mm	0,8-1,6 (0,5-1,9)	(4,0-5,4)) 5,3 - 6,	1 (5,0 - 6,4)
	n = rev/min	400		11	50
LDA = 0.8 ba	bar (kgf/cm²)	3.7 - 4,3		6,4	- 7,0
Overflow delivery	n = rev/min	500		80	00
	cm ³ /10 s	55-138 (40-153)		55-138 (40-153)
2.3 Fuel deliveries				3. Dimen	Sions for assembly and adjustment
Speed control lever	Rot. speed rev/min	Fuel delivery cm ³ /1000 strokes	Charge-air press. Jar (kgf/cm²)	Designation	mm
End stop	1300	max. 2,5	0,8	K	_
	1270	(20,5-29 71,0-79,0 (70,5-79	,5) 0,8		5,2 - 5,4
	1230	71,0-79,0 (70,5-79	,5) 0,8	KF	1
	1130	85,4 - 88,4 (84,2-8	39.6) 0.8	MS	1,2 - 1,4
	800	(90,0-9 86,4-90,4 (85,7-9	95,4) 0,8 91,1) 0,3	svs	
	800 *	86,4-90,4 (85,7-9	91,1) 0,3	0.5	5,0
	500 500	83,5-84,5 (£),6-6 (73,1-	37,4 0,23 79,9 0		
switch-off				к	20,2 - 22,2
				L	12,3 - 15,7
Idle stop	350 400 450	(20,5-2 5,0-11,0 (3,5-2 max. 3,0	29,5) 12,5)	Use ad:	roke 4,9 mm justing nut
End stop	220 300	min. 100 max. 80		(46) to	o correct.
2.4 Solenoid	cutin voltage				,
	1	rated voltage 12 V.		i	

46

WPP 001/4 OPE 2,3 g

2. Edition

VE 4//0 F 2100 L 155 0 460 404 036

Overflow temperature 45° C

supersedes 10.84 company: Ope1 engine: 2.2 T

2,3 TD

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

Pre-stroke setting

see VDT-W-460/...

1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel	1500	5,1-5,5	mm	0,8	
1.2 Supply-pump pressure	1500	5,0-5,6	bar (kgf/cm²)	0,8	ļ
1.3 Full-load delivery with	1200	58,5-59,5	cm³/1000 strokes	0,8	3,0
charge-air pressure Full-load delivery without	500	36,0-37,0	cm³/1000 strokes	0	
charge-air pressure	290	13,5-17,5	cm ³ /1000 strokes	0	3,0
1.5 Full-speed regulation	2425	15,0-21,0	cm ³ /1000 strokes	0,8	
1.6 Start	100	min. 48,0	cm ³ /1000 strokes	0	
1.7 Load-dependent port-closing	1500			0	

2. Test Spe	cifications	checking values in	brackets ()			
2.1 Timing device	n = rev/min mm	800		200 ,0(3,0-4,4)	1500 (4,6-6,0)	2100 7,9-8,7(7,6-9
2.2 Supply pump	n = rev/min bar (kgf/cm²)	500 2,7-3,3 (0	1 bar) 4,4-5	200 ,0(0,8 bar)	2100 6,4-7,0) (0,8 bar)
Overflow delivery	n = rev/min cm ³ /10 s	500(0 55-138 (40			2100 55-138 ((0,8 bar) (40-153)
2.3 Fuel deliveries					3. Dimer	for assembly
Speed control tever	Rot. speed rev/min	Fuel delivery cm ³ /1000 strokes		Charge-air press. bar (kgf/cm²)	Designation	and adjustment mm
End stop	2550 2425 2300 2100 1200 800* 500	46,3-48,7	(13,5-22,5) (27,5-36,5) (44,8-50,1) (56,3-61,6) (41,3-46,6) (33,1-39,9)	0,8 0,8	K KF MS SVS	3,2-3,4 5,7-5,9 0,9-1,1 max.3,0
	2100				Observations	
End stop	380 320 290 250 400	max. 2,5 7,0-13,0 min. 50,0 max. 47,0	(5,5-14,5) (11,0-20,0)		* Use add to corr LDA-str Hydrcol (0 V)	roke 6,2 mm ld-start acce
2.4 Solenoid	cut-in volta	min.	-		800 min 800 " 1200 "	-1 2,2-3,8 mm 3,7-6,2 mm max.6.2 mm

BOSCH

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WPP 001/4 CUM 5,9 m 2. Edition

VE 6/12 F 1100 R 159 - 9

0 460 426 051

Overflow temperature 45° C

supersede company: Cummins engine: 6 BT - 590

DHK: 1 688 901 016/207 + 3 bar

(il test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

 $0,3 \text{ mm} \stackrel{+}{=} 0,02 (0,04)$

see VDT-W-460/...

1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel	750	3,1-3,5	mm		
1.2 Supply-pump pressure	750	3,6-4,2	bar (kgf/cm²)		
1.3 Full-load delivery with	-	-	cm ³ /1000 strokes		
charge-air pressure Full-load delivery without	900	81,5-82,5	cm³/1000 strokes		4,0 (4,5)
charge-air pressure 1.4 Idle regulation	375	27,0-33,0	cm³/1000 strokes		3,5 (4,5)
1.5 Full-speed regulation	1175	37,0-43,0	cm³/1000 strokes		
1.6 Start	100	min., 97,0	cm³/1000 strokes		
1.7 Load-dependent port-closing	_	-			

2. Test Spec	ifications	checking values in brac	kets ()			
2.1 Timing device	n = rev/min mm	500 1,3-2,1 (1	,0-2,4)	750 (2,6-4,0)	1100 5,6-6,4 (5,3-6,7)	
2.2 Supply pump	n = rev/min bar (kgf/cm²)	500 2,5-3,1			100 ,0-5,6	
Overflow delivery	n = rev/min cm ³ /10 s	500 55-138 (40-	-153)		100 (40-153)	
2.3 Fuel deliveries Speed control lever	Rot. speed	Fuel delivery		Charge-air press.	3. Dimen	sions for assembly and adjustment
End stop	1250 1175 1100 900 750 500		(35,0-45,0 (75,5-81,5 (79,0-85,0 (81,2-88,7 (80,7-88,2		K KF MS SVS	5,2-5,5 1,4-1,65 1,2
Idle stop End stop	450 375 300 130 240	max. 1,5 56,0-64,0 min. 97,0 max. 85,0	(25,0-35,0 (55,0-65,0)			ck electric device at
2.4 Solenoid	cut-in voltag	min.				

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Test Specifications Distributor-type Fuel-injection Pumps

WPP 001/4 CUM 5,9 p

1. Edition

VE 6/12 F 1400 R 159-15

Overflow temperature 45° C

supersedes

0 460 426 064

CDC company:

DHK: 1 688 901 027/250 + 3 bar Fuel injection test tubing 1 680 750 017 engine:

6 BT - 5.9 93 kW

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers Pre-stroke setting

0,3

 $mm \stackrel{+}{=} 0,02(0,04)$

Test Instructions and Test Equipment

1. Settings	Rot. speed rev/min	Settings	Charge-air press bar (kgf/cm²)	Difference indelivery cm ³
1.1 Timing device travel	850	3,8 - 4,2 m	m	
1.2 Supply-pump pressure	850	3,9 - 4,5 ы	ar (kgt/cm²)	
1.3 Full-load delivery with		cr	m³/1000 strokes	
charge-air pressure Full-load delivery without	1100	56,5 - 57,5 cr	m³/1000 strokes	4,0 (4,5)
charge-air pressure 1.4 Idle regulation	350	11,0 - 17,0 c	m³/1000 strokes	5,5
1.5 Full-speed regulation	1470	32,0 - 38,0 c	m³/1000 strokes	
1.6 Start	100	min. 50,0 a	m³/1000 strokes	
1.7 Load-dependent port-closing	-			

2.1 Timing device	n = rev/min	500	800	1100		
C. 1 Hilliany Gevice	mm	500 1,5-2,3 (1,2-2,6) (3	*	5,4-6,2 (5,1-6,5)		
			,3-4,7) 3,4		, , , ,	
2.2 Supply pump	n = rev/min	500	_	1100		
	bar (kgf/cm²)	2,5 - 3,1	4,	9 - 5,5		
Overflow delivery	n = rev/min	500		1400	1	
	cm ³ /10 s	42-83 (27-98)		55-138 (40-153)	
2.3 Fuel deliveries				3. Dimen	sions	
Second control town	I Dat speed	I Evel deliver	Charge-air press.	Designation	for assembly and adjustment	
Speed control lever	Rot. speed rev/min	Fuel delivery cm³/1000 strokes	bar (kgf/cm²)	Deagnetron.		
End stop	1580	max. 2,0		K		
	1520	8,5-16,5 (7,5-17,5) (30,0-40,0)				
	1470 1400	(30,0-40,0) (53,5-56,5 (52,0-58,0)		KF	5,1-5,4	
	1100	(54,0-60,0)		MS	1,4-1,6	
	850	52,5-56,5 (51,5-57,5)		svs	0,8	
	500	39,0-47,0				
	-		_	V17	20 2 20 2	
switch-off				XK	20,2-22,2	
		4		XL	10,8-14,2	
idle stop	450	4.0		Observations		
	450 350	max. 4,0 (9,0-19,0)		Stop chec	k electric	
	300	33,0-41,0 (32,0-42,0)		shutoff	levice at	
End stop	130	min. 60,0		350 min/1		
- · · · · · · · · · · · ·	400	max. 60,0				
2.4 Solenoid	cut-in volta	90 min. 10 V				

WPP 001/4 FIA 2,7 a 2

1. Edition

VE 3/11 F 1250 L 163-2 Overflow temperature 45° C

supersedes

Fiat company:

0 460 413 004

engine:

8035.06.220

DHK: 1 688 901 020/172 + 3 bar

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

Pre-stroke setting

 $_{mm} \pm 0,02(0,04)$

1. Settings	Rot. speed rev/min	Settings	Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel	800	2,8 - 3,2 _{mm}		
1.2 Supply-pump pressure	800	4,4 - 5,0 bar (kgf/cm²))	
1.3 Full-load delivery with		cm ³ /1000 stn	okes	
charge-air pressure Full-load delivery without	800	57,5 - 58,5 cm3/1000 str	oķes	3,5 (4,0)
charge-air pressure 1.4 Idle regulation	325	10,5 - 14,5 cm ³ /1000 stm	okes	3,5 (4,0)
1.5 Full-speed regulation	1350	37,0 - 43,0 cm ³ /1000 str	okes	
1.6 Start	100	min. 80,0 cm ³ /1000 str	okes	
1.7 Load-dependent port-closing	-			

2. Test Spe	cifications	checking values in brackets ()	
2.1 Timing device	n = rev/min mm	600 0,9-1,5 (0,5-1,9)	800 (2,3-3,7)	1000 4,5-5,3 (4,2-5,6)
2.2 Supply pump	n = rev/min bar (kgf/cm²)	1230		
Overflow delivery n = rev/min cm ³ /10 s		500 42-83 (27-98)		1250 38 (40-153)
2.3 Fuel deliveries	·			3. Dimensions for assembly and adjustment

	G11-710-5	42-83 (27-98)	55-138 (4	0-153)	
2.3 Fuel deliveries Speed control lever	I Rot. speed	3. Dimen	for assembly and adjustment		
Speed Control lever	rev/min	Fuel delivery cm ³ /1000 strokes	Charge-air press. bar (kgf/cm²)	Designation	mm
End stop	1450 1400 1350 1250 800 500	max. 1,0 6,5-13,5 (5,5-14,5) (35,5-44,5) 50,0-53,0 (48,8-54,2) (55,3-60,7) 52,5-55,5 (50,6-57,4)		K KF MS SVS	5,1-5,4 1,5-1,7 4,3
switch-aff				xk	17,0-19,0 14,5-17,9
idle stop End stop	325 375 450 150 250	(8,0-16,5) 2,0-8,0 (0,5-9,5) max. 2,0 min. 90,0 max. 50,0		Observations	
2.4 Solenoid	cut-in volta	min. 10 V			

Test Specifications Distributor-type Fuel-injection Pumps

WPP 001/4 FIA 3.6 c 1. Edition

VE 4/11 F 1250 L 164-2 Overflow temperature 45° C

supersedes

company: engine:

Fiat-Iveco 8045.06.220

0 460 414 024

DHK: 1 688 901 C20/172 + 3 bar

Test Instructions and Test Equipment

see VDT-W-460/...

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers Pre-stroke setting

0,2

 $_{mm} \pm 0,02 (0,04)$

1. Settings	Rot. speed rev/min	Settings	Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel	- 800	3,0 - 3,4 mm		
1.2 Supply-pump pressure	800	4,1 - 4,7 bar (kgf/cm²)		
1.3 Full-load delivery with		cm ³ /1000 stroke	13	
charge-air pressure Full-load delivery without	800	63,5 - 64,5 cm ³ /1000 stroke	18	3,5 (4,0)
charge-air pressure 1.4 Idle regulation	350	23,0 - 27,0 cm ³ /1000 stroke	rs .	3,5 (4,0)
1.5 Full-speed regulation	1350	32,0 - 38,0 cm ³ /1000 stroke	18	
1.6 Start	100	min. 90,0 cm ^{3/1000} stroke	18	
1.7 Load-dependent port-closing	-		·	

2. Test Spec	difications	checking values in brackets ()		
2.1 Timing device	uw u = uev/wiu	600 1,2-2,0(0,9-2,3) (2,5	00 100 -3,9) 4,9-5,5(4,)0 ,5-5,9) 5,4-(1250 5,2(5,1-6,5)
2.2 Supply pump	n = rev/min bar (kgf/cm²)	600 3,2 - 3,8	6,	1250 1 - 6,7	
Overflow delivery	n = rev/min cm²/10 s	500 42-83 (27-98)	55-1	1250 138 (40-153)	
2.3 Fuel deliveries	<u>.l</u>			3. Dimen	Sions for assembly
Speed control lever	Rot. speed rev/min	Fuel delivery cm³/1000 strokes	Charge-air press. bar (kgf/cm²)	Designation	and adjustment mm
End stop	1410 1380 1350 1250 800 500	max. 3,0 13,5-20,5 (12,5-21,5 (30,5-39,5 54,3-56,7 (52,8-58,2 (61,3-66,7 57,5-60,5 (55,6-62,4)))	K KF MS SVS	5,2-5,4 1,5-1,7 4,0
switch-off				XT XK	17,0-19,0 13,5-16,9
End stop	350 425 480 150 250	(20,5-29,5 4,0-10,0 (2,5-11,5 max. 2,5 min. 100,0 max. 50,0	5)	Observations	
2.4 Solenoid	cut-in volta	min. 10 V			

Test Specifications Distributor-type Fuel-injection Pumps

WPP 001/4 FIA 5,5 K 2. Edition

800

VE 5/11 F 1250 R 165

Overflow temperature 45° C

supersed 84

0 460 415 005

DHK: 1 688 901 020

company:Fiat-Iveco engine: 8055.05.200

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

Pre-stroke setting

2.1 Timing device

0,2

2. Test Specifications checking values in brackets (

cut-in voltage

n = rev/min

± 0,02 (0,04) mm

600

see VDT-W-460/...

1200

1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kgl/cm²)	Difference in delivery cm ²
1.1 Timing device travel	800	2,5-2,9	mm		
1.2 Supply-pump pressure	800	3,8-4,4	bar (kgl/cm²)		
1.3 Full-load delivery with	-	-	cm³/1000 strokes		
charge-air pressure Full-load delivery without	800	70,0-71,0	cm ³ /1000 strokes		3,5 (4,0)
charge-air pressure 1:4 Idle regulation	300	16,0-20,0	cm ³ /1000 strokes		3,0 (4,0)
1.5 Full-speed regulation	1400	16,5-22,5	cm ³ /1000 strokes		
1.6 Start	100	min. 95	cm ³ /1000 strokes		
1.7 Load-dependent port-closing	-				

	mm	0,6-1,4(0,3=1,7)	(2,0-3,4) 6,	0-6,8(5,7-7	,1)
2.2 Supply pump	n = rev/min bar (kgf/cm²)	400 2,0-2,6		1200 5,6 - 6,2	
Overflow delivery	n = rev/min cm ³ /10 s	500 55-138(40-153)	5	1250 5-138(40-15	3)
2.3 Fuel deliveries				3. Dimen	SIONS for assembly
Speed control lever	Rot. speed rev/min	Fuel delivery cm²/1000 strokes	Charge-air press. bar (kgf/cm²)	Designation	and adjustment mm
End stop	1450 1400 1360 1250 800 500	max. 2,0 (15,0-2 42,5-49,5 (41,5-5 62,5-65,5 (61,3-6 (67,9-7 63,0-66,0 (61,1-6	0,5) 66,7) 3,1)	K KF MS SVS	5,2-5,4 1,5-1,7 4,3
switch-off				A XK	17,0-19,0
	1250	0		8 XT	14,9-18,3
idle stop End stop	400 350 300 150 250	max. 2,0 8,0-14,0 (6,5-1 (13,5-2 min. 95 max. 60	5,5) 2,5)	Observations	

2.4 Solenoid

min. 10 V rated voltage 12 V

WPP 001/4 PEU 2,1 f 2. Edition

VE 4/9 F 2250 R 174 0 460 494 154

Overflow temperature 45° C

En

1.85 PSA-Mahindra

DHK: 1 6 88 901 022 / 130+ 3 bar

Fuel injection test tubing 6x2x450 mm

XD 4/90

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

Pre-stroke setting

see VDT-W-480/.

1. Settings	Rot. speed rev/min	Settings		Cherga-oir press. bar (kgf/cm²)	Difference in
1.1 Timing device travel	1500	3,8-4,2	mm		
1.2 Supply-pump pressure	1500	5,5-6,1	ber (kgf/cm²)		
1.3 Full-load delivery with	-		cm ³ /1000 strokes		
charge-air pressure Full-load delivery without	1500	31,0-32,0	cm ³ /1000 strokes		2,5(3,0)
charge-air pressure	350	7,0-11,0	cm³/1000 strokes		2,0(3,0)
1.5 Full-speed regulation	2400	11,0-17,0	cm ³ /1000 strokes		
1.6 Start	100	min. 50	cm³/1000 strokes		
1.7 Load-dependent port-closing	-				

2. Test Spec	cincations				
2.1 Timing device	n = rev/min	1000 1,6-2,4 (1,3-2,7)	1500 (3,3-4,7)	6,4-7,2	2200 (6,1-7,5)
2.2 Supply pump	n = rev/min bar (kgf/cm²)	400 2,0-2,6	220 7,4-		
Overflow delivery	n = rev/min cm ³ /10 s		225 55-138 (
2.3 Fuel deliveries	<u> </u>			3. Dimer	SIONS for assembly and adjustment
Speed control lever	Rot. speed rev/min	Fuel delivery cm³/1000 strokes	Charge-air press. ber (kgf/cm²)	Designation	mm
End stop	2500 2400 2350 2200 2000 1500 1000 500	max. 4,0 (10,0-18,0 21,0-27,0 (20,0-28,0 34,0-37,0 (32,8-38,2 33,5-36,5 (32,3-37,7 (28,8-34,2 29,7-32,7 (28,2-34,2 30,8-33,8(29,3-35,3)	0))) (2) (2)	K KF MS SVS	3,2-3,4 5,7-6,0 1,2-1,4 2,5
switch-off				e XI	20,2-22,2
tule stop	350 400 550	(5,0-13,0 max. 4,0 max. 1,0)	Observations	1290
End stop	350 450	min 40 min 44			
2.4 Solenoid	cut-in voltag	min. 10 V			

Test Specifications Distributor-type Fuel-injection Pumps

WPP 001/4 FIA 5,5 o 1

1. Edition

VE 6/11 F 1250 R 181-1

Overflow temperature 45° C

superseder company: Fiat-Iveco company: 8065.05.290

0 460 416 046

DHK: 1 688 901 020

Pre-stroke setting

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers mm

Test Instructions and Test Equipment

1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	()ifference in ()alivery cm ³
1.1 Timing device travel	1000	4,7-5,1 6,2-6,8	mm has the description		
1.2 Supply-pump pressure 1.3 Full-load delivery with charge-air pressure Full-load delivery without charge-air pressure 1.4 Idle regulation	- 1000 400	73,5-74,5 20,0-24,0	bar (kgf/cm²) cm³/1000 strokes cm³/1000 strokes		3,5 (4,0) 3,5 (4,0)
1.5 Full-speed regulation 1.6 Start	1380 100	21,0-27,0 min. 110,0	cm ³ /1000 strokes		
1.7 Load-dependent port-closing	-				

2. Test Spe		checking values in bri	ockets ()	4000	1050	
2.1 Tirning device	n = rev/min	600 0,9-1,7(0,6	-2,0)	1000 4,2-5,6)	1250 5,3 - 6,1(5,	0-6,4)
2.2 Supply pump	n = rev/min bar (kgf/cm²)	200 2,0-2,6		600 4,6-5,2	1250 7,2-7,	
Overflow delivery	n = rev/min cm ³ /10 s	4	500 2-83(27 - 98)		1250 55-138(40)-153)
2.3 Fuel deliveries		<u> </u>		Ţ	3. Dimen	Sions for assembly
Spaed control lever	Rot. speed rev/min	Fuel delivery cm²/1000 strokes		Charge-air press. bar (kgf/cm²)	Designation	and adjustment mm
End stop	1450 1380 1330 1250 1000 600	max. 2,0 48,5-55,5 64,0-67,0 68,5-71,5	(19,5-28,5 (47,5-56,5 (62,8-68,2 (71,3-76,7 (66,6-73,4		k KF MS SVS	3,2=3,4 5,2=5,4 1,5=1,7 4,3
switch-off	1250	0			XK	17,0 - 19,0
dle stop	400 450	7,0-13,0	(17,5-26,5 (5,5-14,5)	Observations	
End stop	150 250	min. 110,0 max. 85,0				
2.4 Solenoid	cut-in voltag	• min. 2				

4113

Test Specifications Distributor-type Fuel-injection Pumps

WPP 001/4 VWW 2.4 p 2. Edition

supersedes

3.85 VW

company: engine:

087T

Overflow temperature 45° C

All test specifications are valid only for Bosch Fuel injection Pump Test Benches and Testers

Test Instructions and Test Equipment

10.85

Pre-stroke setting

0 460 406 043

VE 6/10 F 2400 L 194

mm

1. Settings	Rot. speed rev/min	Settings	•	Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel	1500	1,51,9	mm	1,3	
1.2 Supply pump pressure	1500	5,7- 6,3	bar (kgf/cm²)	1,3	
1.3 Full-load delivery without	1500	44,0-45,0	cm ³ /1000 strokes	1,3	max. 3,0
charge-air pressure Full-load delivery with	600	25,5-26,5	cm³/1000 strokes	0	
charge-air pressure 1.4 Idle speed regulation	415	6,0-10,0	cm³/1000 strokes	0	max. 3,0
1.5 Start	2675	10,0-16,0	cm³/1000 strokes	1,3	
1.6 Full-load speed regulation	100	min. 40,0	cm ³ /1000 strokes	0	
1.7 Load-dependent start of delivery					

2. 1 es t Spe	cifications	checking values in brackets ()			
2.1 Timing device	n = rev/min mm	See page 2			و د د المعادلة الله الماري و الماري و الماري و الماري و الماري و الماري و الماري و الماري و الماري و
2.2 Supply pump	n = rev/min bar (kgf/cm²)	See page 2			
Overflow delivery	n = rev/min cm ³ /10 s	600 (0 bar) 41-83(26-98)		2400 (1,3 ba 55-138(40-1	53)
2.3 Fuel deliveries				3. Dimens	Bions for assembly and adjustment
Speed control lever	Rot. speed	Fuel delivery cm ³ /1000 strokes	Charge-air press bar (kgf/cm²)	Designation	mm
End stop	2825 2675 2400 1500 1500 1000 * 600	max. 6,0 (9,0-17,0) 35,0-36,0 (33,8-38,2) (42,3-46,7) 41,8-44,8 (41,1-45,5) 37,5-38,5 (35,8-40,2) 35,5-38,5 (34,0-40,0) (23,0-29,0)	1,3 1,3 1,3 1,05 0,7 1,3	K KF MS SVS	3,2-3,4 6,4-6,6 1,7-1,9 5,8
switch-off				^	
electr.	400	0		8	
idie stop	415 750	(4,0-12,0) max. 4,0		Observations * ALDA-str	oke = 6,0 m
EGR end stop	1000 400 500	13,0-15,0 (10,0-18,0) min. 20 max. 30			
2.4 Solenoid	cut-in voltag	min. 10 Voit rated voltage 12 V.			

3,3 - 3,9

5,7 - 6,3

6,3 - 7,3

7,8 - 8,4

Settings timing device

600

1500

1500

2400

1,3

1,3

1,3

1,3

Rot. speed rev/min	ALDA bar	Solenoid- operated valve V	Timing device travel
1200	1,3	12	0 - 0,8 (0 - 1,1)
1500	1,3	12	1,5 - 1,9 (1,0-2,4)
2400	1,3	12	5,4 - 6,2 (5,1-6,5)
600	1,3	0	1,7 - 3,3
1200	1,3	0	1,7 - 3,3
1500	1,3	0	2,5 - 4,1
1500 Settings supp	·	•	2,5 - 4,1

12

12

0

12

Test Specifications Distributor-type Fuel-injection Pumps

WPP 001/4 VWW 2,4 p 1 2.Edition

<u>En</u>

VE 6/10 F 2400 L 194-1

Overflow temperature 45° C

supersedes company:

engine:

3.85 VW

087 T

0 460 406 044

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

Pre-stroke setting mm see VDT-W-460/...

1. Settings	Rot. speed rev/min	Settings		Charge air press. bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel	1500	1,5- 1,9	mm	1,3	
1.2 Supply-pump pressure	1500	5,7- 6,3	bar (kgf/cm²)	1,3	
1.3 Full-load delivery with	1500	44,0-45,0	cm³/1000 strokes	1,3	max. 3,0
charge-air pressure Full-load delivery without	600	25,5-26,5	cm³/1000 strokes	0	
charge-air pressure 1.4 Idle regulation	415	6,0-10,0	cm ³ /1900 strokes	0	max. 3,0
1.5 Full-speed regulation	2675	10,0-16,0	cm ³ /1000 strokes	1,3	
1.6 Start	100	min. 40,0	cm ³ /1000 strokes	0	
1.7 Load-dependent port-closing					

2. Test Spe	cifications	checking values in brackets ()			
2.1 Timing device	n = rev/min					
	mm	See page 2	····			
2.2 Supply pump	n = rev/min					
	bar (kgf/cm²)	See page 2				
Overflow delivery	n = rev/min	600 (0 bar)			2400 (1,	3 bar)
	cm ³ /10 s	41-83(26-98)			55-138(40) - 153)
2.3 Fuel deliveries					3. Dimens	for assembly
Speed controllever	Rot. speed rev/min	Fuel delivery cm ³ /1000 strokes		arge-air press. (kgf/cm²)	Designation	and adjustment mm

		41-03(20-	30)	
2.3 Fuel deliveries				
Speed controllever	Rot. speed rev/min	Fuel delivery cm ³ /1000 strokes		Charge-air press bar (kgf/cm²)
End stop	2825 2675 2400 1500 1500 1000* 600	max. 6,0 35,0-36,0 41,8-44,8 37,5-38,5 35,5-38,5	(9,0-17,0) (33,8-38.2) (42,3-46,7) (41,1-45,5) (35,8-40,2) (34,0-40,0) (23,0-29,0)	1,3 1,05
switch-off				
mech.	2400	0		
idle stop	415 715	max. 4,0	(4,0-12,0)	
EGR end stop	1000 400 500	13,0- 15,0 min. 20 max. 30	(10,0-18,0)	
2.4 Solenoid	cut-in volte		.10V tage 12 V.	

Oesignation	for assembly and adjustment mm
к	3,2-3,4
KF	6,4-6,6
MS	1,7-1,9
svs	5,8
•	
Observations	
* ALDA-st	roke = 6,0 mm

BOSCH

Settings timing device

Rot. speed rev/min	ALDA bar	Solenoid- operated valve V	Timing device travel
1200	1,3	12	0 - 0,8 (0 - 1,1)
1500	1,3	12	1,5 - 1,9 (1,0-2,4)
2400	1,3	12	5,4 - 6,2 (5,1-6,5)
600	1,3	0	1,7 - 3,3
1200	1,3	0	1,7 - 3,3
1500	1,3	0 .	2,5 - 4,1

Settings supply-pump pressure

600	1,3	12	3,3 - 3,9
1500	1,3	12	5,7 - 6,3
1500	1,3	0	6,3 - 7,3
2400	1,3	12	7,8 - 8,4

WPP 001/4 FIA 1,7 h2 2. Edition

VE 6/11 F 1500 R 196

0 460 416 042

Pre-stroke setting

Overflow temperature 45° C

supermedes 3.85
company: Fiat-Iveco

company:

8060.05.200

DHK: 1 688 901 020/172 + 3 bar

All test apecifications are valid only for Boach Fuel-injection Pump Test Senches and Testers mm

Test instructions and Test Equipment

800 VDT-W-460/...

1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kg//cm²)	Difference in delivery, cm ³
1.1 Timing device travel	1000	3,8- 4,2	mm		
1.2 Supply-pump pressure	1000	5,4- 6,0	bar (kgl/cm²)		
1.3 Full-load delivery with	-		cm³/1000 strokes		
charge-air pressure Full-load delivery without	1000	68,7-69,7	cm³/1000 strokes		3,5
charge-air pressure 1.4 Idle regulation	425	8,0-12,0	cm ³ /1000 strokes		4,0
1.5 Full-speed regulation	1600	45,0-51,0	cm³/1000 strökes		
1.6 Start	100	min. 76,0	cm ³ /1000 strokes		
1.7 Load-dependent port-closing	-			,	

2. Test Spe	cifications	checking values in brackets ()	
2.1 Timing device	n = rev/min	700 0,5-1,3(0,2-1,6	1000	1400 6,2-7,0(5,9-7,3)
2.2 Supply Pump	n = rev/min ber (kgf/cm²)	200 1,5-2,1	700 4,2-4,8	1500 7,2-7,8
Overflow delivery	n = rev/min cm²/10 s	600 41-83(26-98)		1500 55-138(40-153)
2.3 Fuel deliveries	I Cat aread	I Sual delivers	I Change on	3. Dimensions for assembly and adjustment

		41-83(26-98)			55	-138 (40-153)
2.3 Fuel deliveries Speed control lever	Rot. speed	Fuel delivery		Charge-air press. ber (kgf/cm²)	3. Dimen	Sions for assembly and adjustment mm
End stop	1730 1650 1600 1500 1000 600	max. 2,0 34,5-41,5 64,5-67,5 57,0-60,0	(33,5-42,5) (43,5-52,5) (63,3-68,7) (66,5-71,9) (55,1-61,9)		K KF MS SVS A XK B	3,2-3,4 5,7-5,9 1,9-2,1 17,0-19,0 10,6-14,0
Idle stop End-stop	425 500 200 300	max. 2,0 min. 80 max. 32	(5,5-14,5)			Pulling tromagnet
2.4 Solenoid	max. cut-in volts	190				

BOSCH

test voltage

WPP 001/4 CUM 5,9 r

1. Edition

VE 6/12 F 1325 R 198

Overflow temperature 45° C

En

supersedes-

0 460 426 063

DHK: 1 688 901 027/250 + 3 bar

company: CDC

angine: 6 BT 5.9 97 kW

Fuel injection test tubing 1 680 750 017

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

mm + 0,02(0,04)0,3 Pre-stroke setting

see VDT-W-460/...

1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery Cm ³
1.4 Timing device travel	850	3,9-4,3	mm		
1.2 Supply-pump pressure	850	3,9-4,5	bar (kgf/cm²)		
1.3 Full-load delivery with	-		cm³/1000 strokes		
charge-air pressure Full-load delivery without	1100	56,0-57,0	cm ³ /1000 strokes		4,0 (4,5)
charge-air pressure 1.4 Idle regulation	375	7,0-13,0	cm³/1000 strokes		3,5 (4,5)
1.5 Full-speed regulation	1400	36,0-42,0	cm ³ /1000 strokes		
1.6 Start	100	min. 60,0	cm ³ /1000 strokes	<u> </u>	
1.7 Load-dependent port-closing	-				

2. Test Spe	cifications	checking values in brackets ()	
2.1 Timing device	n = rev/min	500	850	1100
	mm	1,3-2,1(1,0-2,4)	(3,4-4,8)	5,9-6,7(5,6-7,0)
2.2 Supply pump	n = rév/min	500	1100	
	bar (kgf/cm²)	2,5-3,1	4,9 - 5,5	
Overflow delivery	ú = ica∖wiu	500 42-83(27-98)	1325 55-138(40-153)	

	Em-108	42-03(27-30)	130(40-133)	
2272 Dairrettes, _	Rot. speed	Fuel delivery	3. Dimen	SIOFIS for assembly and adjustment mm
End atop	1520 1460 1400 1325 1100 850 500	max. 2,0 10,5-18,5 (9,5-19,5) (34,0-44,0) 52,5-55,5 (51,0-57,0) (53,5-59,5) 53,5-57,5 (52,5-58,5) 40,5-44,5 (38,7-46,3)	K KF MS SVS	5,2-5,4 1,4-1,6 1,3
switch-off			XK	20,2-22,2
			XL	9,1-12,5
Idle stop End stop	300 375 450 130 250	41,0-49,0 (40,0-50,0) (5,0-15,0) max. 4,0 min. 65,0 max. 65,0		ck electric device at 1
2.4 Solenoid	Cul-in volt	age min. 10.0 V		

rated voltage 12

5,2-5,4 1,4-1,6 1,3 20,2-22,2 9,1-12,5

BOSCH

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung.
1980 by Robert Bosch GmbH. Postfach 50, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprime in Republique Federale d'Alternagne par Robert Bosch GmbH.

6

Test Specifications Distributor-type Fuel-injection Pumps

2. Test Specifications checking values in brackets (

cut-in voltage

WPP 001/4 VWW 1,7 a

1. Edition

VE 4/9 F 2250 R 187

Overflow temperature 45° C

supersedes

company:

086 - 1,7 Typ 2

0 460 494 164

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test instructions and Test Equipment

see VDT-W-460/...

Pre-stroke setting mm

1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1 1 Timing device towal	1500	4,3-4,7	mm		
1.1 Timing device travel 1.2 Supply-pump pressure	1500	4,8-5,4	bar (kgf/cm²)		
1.3 Full-load delivery with	-		cm ³ /1900 strokes		
charge-air pressure	1500	35,5-36,5	cm³/1000 strokes		2,5 (3,0)
Full-load delivery without charge-air pressure 1.4 Idle regulation	415	6,0-10,0	cm ³ /1000 strokes		2,0 (3,0)
1.5 Full-speed regulation	2525	12,0-18,0	cm ³ /1000 strokes		
1.6 Start	100	min. 35,0	cm ³ /1000 strokes		
1.7 Load-dependent port-closing	-				

2.1 Timing device	n = rav/min	1000 2,1-2,9(1,	8-3,2) (1500 3,8-5,2)	2250 7,4 -8 ,2(7	,1-8,5)
2.2 Supply pump	n = rev/min bar (kgf/cm²)	600 2,5-3,	.1	22! 6,7	50 -7,3	
Overflow delivery	n = rev/min cm³/10 s	600 55-138(40)-153)	22: 55 - 138	50 (40-153)	
2.3 Fuel delivaries					3. Dimer	SIONS for assembly and adjustment
Speed control lever	Rot. speed rev/min	Fuel delivery cm ² /1000 strokes	·	Charge-air press. ber (kgf/cm²)	Designation	mm
End stop	2675 2525 2475 2230 1500 600	max. 6,0 17,0-27,0 31,5-33,5 25,0-28,0	(11,0-19,0) (17,0-27,0) (30,2-34,8) (33,7-38,3) (23,5-29,5)		K KF MS SVS	3,2-3,4 5,7-6,0 1,3-1,5 4,8
= switch-off						
electr.	400	0				
idle stop	415 1200	max. 4,0	(4,0-12,0)		Observations	
End stop	400 500	min. 22,5 max. 29,5				
						

2.4 Solenoid

min. 10,0 V

rated voltage 12 V

Test Specifications
Distributor-type
Fuel-injection Pumps

46

WPP 001/4 MAN 5,6 m

1. Edition

<u>En</u>

supersedes -company: MAN

company: endine:

D 0226 MLE

VE 6/12 F 1400 R 199-1

0 460 426 062

Overflow temperature 45° C

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

see VDT-W-460/...

Pre-stroke setting

0,2

mm + 0,02 (0,04)

1. Settings	Rot. speed rev/min	Settings	Charge-air press. bar (kg//cm²)	Difference in delivery cm ³
1.1 Timing device travel	800	3,1 - 3,5 mm	1	
1.2 Supply-pump pressure	800	5,2 - 5,8 ber	(kgf/cm²)	
1.3 Full-load delivery with	-	cm ²	³ /1000 strokes	,
charge-air pressure Full-load delivery without	1000	132,5-133,5 cm/	2/1000 strokes	4,0
charge-air pressure	300	15,0 - 21,0 cm	3/1000 strokes	3,5
1.5 Full-speed regulation	1480	92,0 -100,0 cm	² /1000 strokes	
1.6 Start	100	min. 90,0 cm	3/1000 strokes	
1.7 Load-dependent port-closing	800	-		

2. Test Spe	cifications	checking values in brackets ()		
2.1 Timing device	n = rév/min mm	500 1,4-2,2(1,1-2,5)	800 (2,6-4,0)	1400 4.1-4.9(3.8-5.2)	1400 1 4.5-5.3(4.2-5.6)
2.2 Supply pump	n = rev/min bar (kg1/cm²)	200 2,3 - 2,9		1400 7,3 - 7,9	
Overflow delivery	n = rev/min cm³/10 s	400 42-83 (2/-98)		55-138 (40-1:	53)

		42-83 (2/-9)	8)	22-13	8 (40-153)	
2.3 Fuel deliveries	_				3. Dimen	SIONS for assembly and adjustment
Speed control lever	Rot. speed rev/min	Fuel delivery cm ³ /1000 strokes	•	Charge-air press. bar (kgf/cm²)	Designation	mm
End stop	1650	max. 2,0	/ ₊		К	_
	1600 1480	6,0-14,0	91,0-101,0	1	KF	5,7-5,9
	1400 1000	123,5-126,5 (123)	2,0-128,0 0,0-136,0		MS	1,0-1,2
	630	130,0-134,0 (12	8,2-135,8		svs	2,0
switch-off	-				A	
					8	
die stop	300 350 400	1,0-7,0 max. 2,0	3,0-23,0)		Observations	
End stop	380 430	min. 120,0 max. 135,0				
2.4 Solenoid	max. Cut-in volte	ige	· · · · · · · · · · · · · · · · · · ·			

Test Specifications Distributor-type Fuel-injection Pumps

46

WPP 001/4 VWW 2,4 r

1. Edition

VE 6/10 F 1500 L 201

0 460 406 045

Overflow temperature 45° C

upersedes

VWW 08/ T

company: engine:

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

see VDT-W-460/..

Pre-stroke setting

1. Settings	Rot. speed rev/min	Settings	Charge-air press. ber (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel	1480	1,4 - 1,8 mm	0,75	
1.2 Supply-pump pressure	1480	4,7 - 5,3 bar (kgf/	/cm²) 0,75	
1.3 Full-load delivery with	1480	38,5 - 39,5 cm ³ /100	0,75	2,5 (3,0)
charge-air pressure Full-load delive: y without	600	21,5 - 22,5 cm3/100	O strokes 0	
charge-air pressure 1.4 Idle regulation	375	6,0 - 10,0 cm ³ /100	O strokes ()	2,0 (3,0)
1.5 Full-speed regulation	1570	9,0 - 15,0 cm ³ /100	0,75	
1.6 Start	100	min. 35 cm ³ /100	O strokes 0	
1.7 Load-dependent port-closing	-			

2. Test Spec	ifications	checking values in brackets ()			
2.1 Timing device	n = rev/min mm	1200 0,1-0,9 (0-1,2)	- ·	180 -2,3)	
LDA=0.75 bar 22 Supply pump	bar (kgf/cm²)	600 2,4 - 3,0		······································	
LDA=0,75 bar Overflow delivery	n = rev/min cm³/10 s	600 42-83 (27-98)		1480 (0,75 55-138 (40-1	•
2.3 Fuel deliveries Speed control lever	Rot. speed	Fuel delivery	Charge-air press.	3. Dimen Designation	SiONS for assembly and adjustment mm
End stop	1625 1570 1480 /50* 600 600	max. 3,0 (8,0-16,0) (36,7-41,3) 29,0-30,0 (26,5-32,5) 33,0-36,0 (31,5-37,5) (19,0-25,0)	0,75 0,75 0,75 0,75 0,30 0,75	K KF MS SVS	3,2 - 3,4 6,3 - 6,6 1,0 - 1,2 3,8
switch-off				A XX	18,8-20,8
electr.	400	0		8 XI	11,8-15,2
ldle stop End stop	450 375 400 500	max. 3,0 (4,0-12,0) min. 18 max. 25	0	* LDA-stroke 4,5 mm Use adjusting nut (46) to correct.	
2.4 Solenoid	cut-in voltage	min. 10.0 V			

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Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung.

1980 by Robert Bosch GmbH. Postfach 50, 0-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprime en Republique Fédérale d'Allemagne par Robert Bosch GmbH.

WPP 001/4 VWW 2,4 r 1 1. Edition

Testoil-ISO 4113

VE 6/10 F 2000 L 201-2

0 460 406 046

Pre-stroke setting

Overflow temperature 45° C

y supersedes

VWW company:

engine:

087 T

All test specifications are valid only for Boach Fuel-injection Pump Test Benches and Testers

mm

Test Instructions and Test Equipment

see VDT-W-460/...

1. Settings	Rot. speed rev/min	Settings		Charge-air press. ber (kgl/cm²)	Difference in delivery cm ³
1.1 Timing device travel	1500	1,5 - 1,9	mm	0,75	
1.2 Supply-pump preasure	1500	4,8 - 5,4	bar (kgf/cm²)	0,75	
1.3 Full-load delivery with	1500	38,0 - 39,0	cm ³ /1000 strokes	0,75	2,5 (3,0)
charge-air pressure Full-load delivery without	600	21,5 - 22,5	cm ³ /1000 strokes	0	
charge-air pressure 1.4 Idle regulation	375	6,0 - 10,0	cm ³ /1000 strokes	0	2,0 (3,0)
1.5 Full-speed regulation	2100	9,0 - 15,0	cm ³ /1000 strokes	0,75	
1.6 Start	100	min. 35,0	cm ³ /1000 strokes	0	
1.7 Load-dependent port-closing	-				

2. Test Spec	ifications	checking values in brackets ()	_	
2.1 Timing device	n = rev/min	750	1500	1980	
LDA=0,75 bar	mm	0,1-0,9 (0-1,2)	(1,0-2,4)	3,1-3,9 (2,8-4,2)	
2.2 Supply pump	n = rev/min	600		1980	
LDA=0.75 bar	bar (kgf/cm²)	2,4 - 3,0	6,1 - 6,7		
Overflow delivery n = rev/min		600	1980 (0,75 bar)		
	cm ³ /10 s	42-83 (27-98)	55-138 (40-153)		
2.3 Fuel deliveries	·····			3. Dimensions	
Speed control laves	! Ont speed	I Fred delivery	l Chama-air orace	and adjustment	

		42-83 (27-98)	_	15-138 (40- 1	153)
2.3 Fuel deliveries				3. Dimer	for assembly
Speed control lever	Rot. speed rev/min	Fuel delivery cm³/1000 strokes	Charge-air press. bar (kgf/cm²)	Designation	and adjustment mm
End stop	2200 2100 1980 1500 750* 600 600	max. 3,0 (8,0-16,0) 33,5-35,5 (32,2-36,8) (36,2-40,8) 29,0-30,0 (27,2-31,8) 33,0-36,0 (31,5-37,5) (19,0-25,0)	0,75 0,75	K KF MS SVS	3,2-3,4 6,4-6,6 1,0-1,2 3,8
switch-off				AXK	18,8-20,8
electr.	400	0		BXT	9,8-13,2
Idle stop End stop	450 375 400 500	max. 3,0 (4,0-12,0) min. 18,0 max. 25,0		Use a	stroke 4,5 mm adjusting nut to correct.
2.4 Solenoid	cut-in voltag	min. 10,0 V			

rated voltage 12 V

Test Specifications Distributor-type Fuel-injection Pumps

46

WPP 001/4 KIA 2,0 a

1. Edition

VE 4/9 F 2125 L 208

Overflow temperature 45° C

supersades KIA

engine: S2 44 kW

0 460 494 169

All test specifications are valid only for Boach Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

Pre-stroke setting

mm

1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel 1.2 Supply-pump pressure	1400 1400	4,9-5,3 4,8-5,4	mm bar (kg//cm²)		
1.3 Full-load delivery with charge-air pressure Full-load delivery without charge-air pressure 1.4 Idle regulation	1400 300	38,8-39,8 8,0-12,0	cm ³ /1000 strokes cm ³ /1000 strokes cm ³ /1000 strokes		2,5 (3,0) 2,0 (3,0)
1.5 Full-speed regulation 1.6 Start	2300 100	20,0-26,0 min. 50,0	cm ³ /1000 strokes cm ³ /1000 strokes		
1.7 Load-dependent port-closing	•				

2. Test Spe	cifications	checking values in brackets ()			
2.1 Timing device	n = rev/min mm	800 1,2-2,0(0,9-2,3)	1400 (4,4-5,8)	1800 7,3-8,1(7,0-8,4)		
2.2 Supply pump n = rev/min ber (kg:/cm²) Overflow delivery n = rev/min cm²/10 s		500 1,8-2,4	1800 6,1-6,7			
		500 42-83(27-98)	2125 55-138(40-153)			
2.3 Fuel deliveries		<u></u>		3. Dimensions		
Speed control lever	Rot. speed	Fuel delivery	Charge-air press.	Designation and adjustment mm		

2.3 Fuel deliveries			
Speed control lever	Rot speed rev/min	Fuel delivery cm³/1000 strokes	Charge-air press. bar (kgf/cm²)
End stop	2600 2450 2300 2100 1400 800 500	max. 2,0 3,0-9,0 (19,0-27,0) 33,6-35,6 (32,3-36,9) (37,0-41,6) 33,8-36,8 (33,0-37,6) 31,5-34,5 (30,0-36,0)	
switch-off			
Idle stop	300 350	(6,0-14,0)	
End stop	200 300	min. 45,0 max. 45,0	
2.4 Solenoid	Cut-in voltag	• min. 10,0 V	

3. Dimens	BIONS for assembly and adjustment mm
к	3,2-3,4
KF	5,7-5,9
MS	1,5-1,7
SVS	3,6
XK	17,0-19,0 13,3-16,7
Observations	

Test Specifications Distributor-type Fuel-injection Pumps

WPP 001/4 CUM 5,9 s

1. Edition

VE 6/12 F 1150 R 225-4

0 460 426 071

Overflow temperature 45° C

company: CDC

DHK: 1 688 901 027/250 + 3 bar

engine: 6 BT - 5.9

Fuel injection test tubing 1 680 750 017

All test specifications are valid only for Boach Fuel-injection Pump Test Benches and Testers

Test Instructions and Trist Equipment

see VDT-W-460/...

Pre-stroke setting

0,3

 $mm \pm 0,02 (0,04)$

1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel	750	4,5-4,9	mm		
1.2 Supply-pump pressure	750	3,8-4,4	bar (kgf/cm²)		
1.3 Full-load delivery with	-		cm ³ /1000 strokes		
charge-air pressure Full-load delivery without	900	72,0-73,0	cm ³ /1000 strokes		4,0
charge-air pressure 1 4 Idle regulation	375	8,0-14,0	cm ³ /1000 strokes		5,5
1.5 Full-speed regulation	1190	54,0-60,0	cm³/1000 strokes		
1.6 Start	100	min. 60,0	cm ³ /1000 strokes		
1.7 Load-dependent port-closing	-				

2. Test Spe	cifications	checiung values in brackets ()	
2.1 Timing device	n = rev/min	400	750	900
	mm	1,7-2,5(1,4-2,8)	(4,0-5,4)	5,2-6,0(4,9-6,3)
2.2 Supply pump	n = rev/min	400	900	1150
	bar (kgf/cm²)	2,3-2,9	4,4-5,0	5,4-6,0
Overflow delivery	n = rev/min cm³/10 s	500 42-83(27	-98)	1150 55-138(40-153)

C113-710 8				05-150(-	10-1337
- <u> </u>	· · · · · · · · · · · · · · · · · · ·			3. Dimer	ISIONS tor assembly and adjustment
Rot. speed rev/min	Fuel delivery cm ³ /1000 strokes		Charge-air press. bar (kgf/cm²)	Designation	mm
1300 1240 1190 1150 900 750 500	70,5-74,5	(69,5-75,5) (69,5-75,5)		K KF MS SVS	5,2-5,4 0,9-1,1 0,6
				ХK	20,2-22,2
		_		XL	11,5-14,9
300 375 450 130 240	31,5-40,5 max. 4,0 min. 70,0 max. 60,0	(31,5-40,5) (6,5-15,5)		shutof	neck electric f device at n/1
	Rot. speed rev/min 1300 1240 1190 1150 900 750 500 300 375 450 130	Rot. speed rev/min Fuel delivery cm3/1000 strokes 1300 max. 2,0 1240 21,0-29,0 1190 66,5-69,5 900 750 70,5-74,5 500 31,5-40,5 375 450 max. 4,0 130 min. 70,0	Rot. speed rev/min cm³/1000 strokes 1300 max. 2,0 1240 21,0-29,0 (20,0-30,0) 1190 (52,0-62,0) 1150 66,5-69,5 (65,0-71,0) 900 (69,5-75,5) 750 70,5-74,5 (69,5-75,5) 500 31,5-40,5 (31,5-40,5) 375 (6,5-15,5) max. 4,0 130 min. 70,0	Rot. speed Fuel delivery cm ³ /1000 strokes bar (kg1/cm ²)	Rot. speed rev/min Fuel delivery cm ³ /1000 strokes Charge-air press. bar (kgf/cm²) Designation 1300

BOSCH

cut-in voltage

2.4 Solenoid

min. 10 V rated voltage 12 V

Test Specifications Fuel Injection Pumps (A) WPP 001/4 LOM 3,7 a and Governors

2. Edition

PES 4 A 80 D 420 LS 1345 Komb.-Nr. 0 400 474 160

RSV 350-1300 A5B 2183 R A5C 2183 R

Lombardini engine LDA 934

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (2,65-2,85)

2,7-2,8

mm (from BDC)

Rotational speed	Control rud travel	Fuel delivary	Difference	Control rod	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm (2)	cm1/100 s. tokes	cm³/ 100 strokes	mm	cm /100 strokes	inin
1	2	3	4	2	3	6
1250	9,5-9,6	5,0-6,1	h,25 (0,4)			
350		0,7-1,3	0,2 (0,35)			
		İ			}	
		ļ		İ		Ç.

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

(1) Uppe	rated spee		Intern	ediate ra	ted speed	(4)	Lowe	r rated speed	(3) to	rque control
Degree of deflection of control lever	Control rod travel mm 2	Control rod travel mm rev/min	4	5	6	Control- lever deflection in degrees 7	rev/min	Control rod travel mm	rev/min	Control rod travel mm
loose	800	0,3-1,0	-	_	-	ca. 17	350	6,0	-	•
	x = 3	3,0					100	min. 19,5		
ca. 51	8,5 4,0 1490	1290-1300 1350-1380 0,3-1,7					350 125-485	6,4-6,6 = 2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

9	ull-load stop emp 40°C (104°F)	6 Rotational- speed limitat	39 f	uel delivery paracteristics	Starting fidle	fuel delivery 5	4a Id	le stop
rev/min	cm ¹ /1000 strakes	changed to) rev/min 3	rëv/min 4	cm ^{1/} 1000 strokes 5	rev/min 6	cm ¹ /1000 strokes	rev/min 8	Control rod travel mm
1250	60,0-61,0 (58,5-62,5)	1290-1300*	-	-	100	118,0-128,({115,0-131 = 19,5 - 21,0 mm R	0)	-

Checking values in brackets

* 1 mm less control rod travel than col 2

5.85

Geschäftsbereich KH. Kundendienst. Kfz-Ausrustung. 6. 1980 by Robert Bosch GmbH, Postfach 50, D-7000 Stuttgart 1. Printed in the Federal Republic of German, Imprime en République Fédérale d'Allemagne par Robert Bosch GmbH.

Test Specifications Fuel Injection Pumps and Governors

WPP 001/4 MB 5,7 m 1 Edition

PES 6 A 80 D 410 RS 2085X RSV350-1400A2B1052DL Komb.-Nr. 0 400 876 188

A2C1052 L

supersede 81 companyDaimler-Benz engine: 0M 352 81 ky (110 PS)

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings 2 15-2 25

rev/min mm cm 1 2 3	uel delivery m ³ /100 sirokes	Difference cm ³ / 100 strokes	Control rod travel mm	Fuel delivery cm ³ /100 strokes	Spring pre-tensioning (torque-control valve)
1 2 3	n ³ /100 strokes		mm	cm ³ /100 strokes	mm
1 2 3	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	X .			
1100		4	2	3	6
1400 [9,0-9,1]	5,2 - 5,3	0,2(0,35)			
350 6,8-7,0	0,9-1,5	0,2(0,3)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper	rated speed	î	Intermediate	rated spe	ed	4 Lowe	r rated spe	eed	3 To	rque control
Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel	rev/min	Control rod travel
1	2	3	4	5	6	7	8	9	10	11
loose	800	0,3-1,0	_	-	-	lose	350	6,9	1400	9,0-9,1
	x =	4,0						in.19,0	50 0 750	9 ,8- 9,9
€a.50	8,2 4,0 1680	1440-14·50 1515 - 1545 0,3-1,7						6,8 -7, 0	950	9,1-9,4

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-lo	Full-load stop Rotational-speed limitat.			el delivery aracteristics	Starting Idle	fual delivery	(5a) Idle stop	
Test oil tem rev/min 1	p. 40°C (104°F) cm ³ /1000 strokes 2	Note: changed to rev/min 3	rev/min	cm³/1000 strokes 5	rev/min	7	rev/min 8	Control rod travel mm 9
1400	52,0 - 53,0 (50,5 - 54,5)	1440-1450	500	46, 0 - 48,0 (44, 0 - 50,0)	100	78,0-88,0 14,2- 14,6 mm RW		•

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps and Governors

WFP 001/4 MAN 9,7 1 3

En 4. Edition

estoil-ISO 4113

PES 6 A 95 D 410 RS 2108 R Komb.-Nr. O 400 876 304 RSV 550-1100 A 1 B 607 L A 1 C 607 L

company

5.84 MAN-RABA

engine D 23

D 2356 HM6 50 kW (204 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

ort closing at prestroke	1,7-1,8 (1,65-1,85)	_
		_

mm (from BDC) RW = 9,0-12,0 mm

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm ³ /100 strokes	cm ³ / 100 strokes	mm	cm ³ /100 strokes	mm
1	2	3	4	2	3	6
1080	12,7+0,1	11,5 - 11,7	0,35(0,6			
550	6,4-6,6	1,1 - 1,7	0,35(0,5			
					ļ	
		1	İ			
					1	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper	rated speed		Intermediate rated speed		4 Lowe	r rated spe	3) Torque control			
Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	88	9	10	11
loose	800	0,3-1,0	-	•	•	ca.25	550	6,0	1080	12,7+0,
ca.50	Х	= 3,25	_				100	min -19,	5 400	12,7+6,
5		130=11,7					550 725	6,4-6,6 max. 1,0	250	13,9+0,
		200= 4,0 0,3-1,7	<u> </u>				525-68	5 2,0	<u> </u>	

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

d stop	6 Rotational- speed limitat.			Starting Idle	fuel delivery	(53) (d)	5a (die stop	
	changed to	rev/min	cm ³ /1000 strokes	rev/min 6	7		Control rod travel mm 9	
		700			•	-	•	
		500	max. 112,0 (max. 114,0)					
	40°C (104°F) cm³/1000 strokes 2 114, 5-116, 5	speed limitet. 40°C (104°F) cm³/1000 strokes 2 speed limitet. Note: changed to rev/min 3	speed limitat. Note: changed to rev/min 3 rev/min 3 700 (112, 5-118, 5)	speed limitat. Note: changed to rev/min 114, 5-116, 5 (112, 5-118, 5) speed limitat. Note: changed to rev/min 700 110,0-113, 0 (108, 0-115, 0)	speed limitat. Note: changed to rev/min 2 114, 5-116, 5 (112, 5-118, 5) speed limitat. Note: changed to rev/min 4 rev/min 5 110,0-113, 0 (108, 0-115, 0)	speed limitat. Characteristics idle 40°C (104°F) cm³/1000 strokes rev/min speed limitat. Note: changed to rev/min speed limitat. Note: changed to rev/min speed limitat. rev/min speed limitat. Characteristics idle 7 114, 5-116, 5 1140-1150* 700 110,0-113, 0 (108, 0-115, 0)	speed limitat. Characteristics Idle	

Checking values in brackets

* 1 mm less control rod travel than cot 2

7.85

WPP 001/4 MWM 1,5 c

7. Edition

En

PES 2 A 75 DRS1235,1252,1298 3RS1236,1239,1299 4RS1237,1246,1276,1301 6RS1238,1302	A7C505 R EP/RSV 300-1000 A7B505DR EP/RSV 325-1500 A2B505DR A2C505 R	supersedes 3.84 company: M W M engine: D 208 - D 308 - D 225 - D 325 -
All test specifications are valid for Bosch Fuel Injection Pu	amp Test Benches and Testers	D 226 - D 327 -

A. Fuel Injection Pump Settings

Port closing at prestroke	(2,15 - 2,35)	mm (from BDC)	
	(2917-2977)		
		In:44	

Rotational speed rev/min	Control rod travel mm	Fuel delivery "C" und "D" cm³/100 strokes 3 7,5 Ø	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery "C" und "D" cm³/100 strokes 3 8 Ø	Spring pre-tensioning (torque-control valve) mm 6
1000	12	6,2 - 6,6	0,4	9	4,1-4,5	
	9	3,2 - 3,7	1	6	1,2 - 2,0	
200	9	2,1-2,8		9	2,7 - 3,7	
	<u> </u>		<u> </u>	<u> </u>		

Adjust the fuel delivery from each outlet according to the values in As from FD 823 the idle auxiliary-spring has been changed from 1 424 641 000 to ... 001. New values enclosed. **B. Governor Settings**

300-1000

Upper	rated speed	·			ed	4 Lowe	r rated spe	ed	3 To:	rque control
Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
ca.68	1000	16,0	without auxiliary			ca.25	300	7,0	-	-
	1050 1100	8,5 2,4	sprin	spring			100 300	min.19,5		
ca.67	1030 1070 1120	8,0-9,0 2,0-4,0 0,3-1,0	with a	uxilia	ry spring		390.	450=2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-loa	ad stop	Rotational- speed limitat.	8) Rotational- speed limitat. 39 Fuel delivery characteristics Starting fuel delivery Idle		(5a) Idle stop			
Test oil temp rev/min t	cm ³ /1000 strokes	Note: changed to rev/min 3	rev <i>ir</i> nin 4	cm ³ /1000 strokes 5	rev/min	7	rev/min 8	Control rod travel mm 9
page	3 - 33 !							

Checking values in brackets

* 1 mm less control rod travel than col. 2

B. Governor Settings

325-	1500
JLJ	1300

(1) Upper	rated speed		Intermediate	rated spe	ed	4 Lowe	r rated spe		(3) To	que control
Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
ca.58	1500	16,0			ca.16	325	7.0	-	-	
	1580 1630	9,0 4,2		without auxiliary spring			100 325	min.19, 7,4-7,6		
ce.56	1530 1580 1720	8,0-9,0 3,0-4,0 0,3-1,0	with a	uxilia	ary spring		445-	505=2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-	load stop	6 Rotational- speed limitat		el delivery aracteristics	Starting fuel delivery Idle		(5a) Idle stop	
Test oil ter rev/min 1	np. 40°C (104°F) cm³/1000 strokes 2	Note: changed to rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm³/1000 strokes 7	rev/min 8	Control rod travel mm 9
page	3 - 33 !		69		100	95,0-105,0 (92,0-108,0 - 19,5-21,0 mm RW)	

Checking values in brackets

* 1 mm less control rod travel than col 2

The rating plate much described on \underline{MM} 1.5 a has recently been modified to enable more precise adjustment on governors with torque control. The modification was carried out in columns n =engine speed and Q = (full-load quantity). Testing was extended to two speeds and two quantities.

Deviating from the instructions WPP ool/4, 1. Supplement "Adjustment of the governor and the pump", the following points now apply:

- (2) Adjustment as per rating plate n = 1 (1st speed) and Q = (1st quantity; or according to columns 1 and 2.
- (3) Adjustment is carried out until the control-rod travel changes, as read under (2), or (with the new rating plate) until the 2nd quantity is reached at the second speed; or as per columns 4 and 5.
- (6) Is to be adjusted as per rating plate n = (lst speed + 20 min⁻¹); or as per column 3.

In the case of repairs to Fendt tractors on which the new rating plate has not yet been attached (2nd speed and 2nd quantity), the full-load data applies, listed as per engine types, in accordance with the above instructions.

With new replacement pumps delivered from the Stuttgart warehouse, the spring retainer is not fitted! Order from NVM Co using the old rating plate.

Full-load data for Fendt tractors - Engine D 208/308

Only valid for engines with pumps

PES 3 A 75 C 320/3 RS 1236 and 9

PES 4 A 75 C 320/3 RS 1237

 (\cdot)

C. Settings for Fuel Injection Pump with Fitted Governor

engine po Full-load di Control-rod Test oil ten	elivery	Rotational-speed imitation	Fuel deliv	very characteristics	Starting Idle switchir		intermedi rotalional Torque-c travel	speed
rev/min	cm³/1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	mm .
ļ,	2	3	4	5	6	7	8	

Fendt tractors- Output at speed - Engine and tractor type per-

$$\frac{32 \text{ PS} / 1050 \text{ min}^{-1} - 0.308 - 3 - 231 \text{ GT} - 975 \quad 36,0 - 37,0 \quad 990 \quad 700 \quad 39,0 - 41,0}{}$$

General fitting - Output at speed

$$\frac{\text{B 30 PS}}{1500} \frac{\text{3000 min}^{-1}}{39,5-41,5} 1520$$

$$\frac{\text{F 30 PS } / 2800 \text{ min}^{-1}}{1400 \quad 41.5 - 43.5} \quad 1420$$

$$\frac{\text{B 29 PS } / 2800 \text{ min}^{-1}}{1400 \quad 40.0 - 42.0} \quad 1420$$

$$\frac{A 27 PS / 2800 min^{-1}}{1400 41.5 - 43.5} 1420$$

Testo:I-ISO 4113

engine por Full-load de Control roc Test oil terr	elivery	Rotational speed limitation	Fuel deliv	.,	Starting Idle		Intermedi rotational Torque-c travet	speed
rev/min	cm³/1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	tev/min	cm ³ /1000 strokes	rev/min	mm
1	2	3	4	5	6	7	8	

 $\frac{\text{F 29 PS} / 2600 \text{ min}^{-1}}{1300 \quad 43,0-45,0} \quad 1320$

B 28 PS / 2600 min⁻¹
1300 41,0 - 43,0 1320

A 26 PS / 2600 min⁻¹
1300 42,5 - 44,5 1320

 $\frac{\text{F 28 PS } / 2500 \text{ min}^{-1}}{1250 \quad 42, 5 - 44, 5} \quad 1270$

B 27 PS / 2500 min⁻¹
1250 40,5 - 42,5 1270

A 25 PS / 2500 min⁻¹
1250 41,5 - 43,5 1270

 $\frac{\text{F 27 PS} / 2400 \text{ min}^{-1}}{1200 \quad 42,0-44,0} \quad 1220$

B 26 PS / 2400 min⁻¹
1200 40,0 - 42,0 1220

A 24 PS / 2400 min⁻¹
1200 41,0 - 43,0 1220

 $\frac{\text{F 26 PS } / 2300 \text{ min}^{-1}}{1150 \quad 41,5-43,5} \quad 1170$

B 25 PS / 2300 min⁻¹ 1150 39,5-41,5 1170

 $\frac{A 23 PS / 2300 min^{-1}}{1150 40, 5 - 42, 5} 1170$

①

C. Settings for Fuel Injection Pump with Fitted Governor

engine por Full-load de Control-roo Test oil tem	elivery	Rotational-speed limitation	Fuel deliv		Starting Idle switchin		Intermedi rotational Torque-c travel	speed
rev/min	cm ³ /1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev?min	cm³/1000 strokes	rev/min	mm .
,	2	3	4	5	6	7	8	

$$\frac{\text{F 25 PS } / 2200 \text{ min}^{-1}}{1100 \quad 41,0-43,0} \quad 1120$$

$$\frac{\text{B 24 PS } / 2200 \text{ min}^{-1}}{1100 39,0-41,0} 1120$$

$$\frac{A 22 PS / 2200 min^{-1}}{1100 40,0-42,0}$$
 1120

$$\frac{8 23 PS / 2100 min^{-1}}{1050 38,0-40,0} 1060$$

$$\frac{\text{F 23 PS } / 2000 \text{ min}^{-1}}{1000 \quad 39,0-41,0} \quad 1010$$

B 22	PS /	2000 min	·1
1000	37,	0 - 39,0	1010

$$\frac{A 20 PS / 2000 min^{-1}}{1000 38,0-40,0} 1010$$

$$\frac{8\ 20\ PS\ /\ 1800\ min^{-1}}{900\ 36,0-38,0}$$
 910

$$\frac{A 18 PS / 1800 min^{-1}}{900 36,5-38,5} 910$$

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C. Settings for Fuel Injection Pump with Fitted Governor

engine por Full-load de Control-rod Test oil tem	livery	Rotational-speed limitation	Fuel deliv		Stariing Idle switchir	fuel delivery g point	Intermed rotational Torque d travel	speed
rev/min	cm³/1000 strokes	rev/min	rev/min	cm³/1009 strokes	rev/min	cm³/1000 strokes	rev/min	l ww
1	2	3	4	5	6	7	8	

A 15 PS / 1500 min⁻¹
750 36,0 - 38,0 760

engine por Full-load de Control-rod Test oil tem	elivery	Rotational-speed limitation	Fuel deliv	very characteristics	Starting Idle switchir	fuel delivery ng point	Intermed rotational Torque-0 travel	speed
rev/min	cm ³ /1000 strokes	rev/min	rev/min	cm³/1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	l _{ww}
1	2	3	4	5	6	7	8	
<u> </u>				T —	7	•	•	•

	2	3	4	5	6	7	8	
 	 	<u> </u>					•	•
F 46,5	PS / 3000	min ⁻¹						
1500	42,0 - 44,0	1520		<u> </u>				
B 45	PS / 3000	min ⁻¹						
1500	39,0 - 41,0	1520						
A 42	PS / 3000	min ⁻¹						
1500	40,5 - 42,5	1520						
F 45	PS / 2800	min ⁻¹						
1400	42,0 - 44,0	1420			····			
B 43,5	PS / 2800	min ⁻¹						
A 40,5	PS / 2800	min ⁻¹						
1400	40,0 - 42,0	1420						
F 43,5	PS / 2600	min ⁻¹						
1300	41,5 - 43,5	1320						
B 42	PS / 2600	min ⁻¹						
1300	39,5 - 41,5	1320						
A 39	PS / 2600							•
1300	40,0 - 42,0	1320						
F 42	PS / 2500	min ⁻¹	•					
1250	40,5 - 42,5	1270				•	· 	
B 40,5	PS / 2500							
1250	38,5 - 40,5	1270						· · · · · · · · · · · · · · · · · · ·
A 37,5		min ⁻¹		•				
1250	39,5 - 41,5	1270						

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C. Settings for Fuel Injection Pump with Fitted Governor

engine por Full-load de Control-rod Test oil terr	elivery	Rotational-speed limitation	Fuel deliv		Starting Idle switchin		Intermedi rotational Torque-c travel	speed
rev/min	cm³/1000 strakes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	mm
<u> </u>	2	3	4	5	6	7	8	

F 40,5 PS / 2400 min⁻¹ 40,5 - 42,5 1220 1200 PS / 2400 min-1 B 39 38,5 - 40,51220 1200 PS / 2400 min⁻¹ A 36 39,5 - 41,5 1220 1200 PS / 2300 min⁻¹ F 39 39,5 - 41,51170 1150 B 37,5 PS / 2300 min⁻¹ 1170 38.0 - 40.01150 A 34,5 PS / 2300 min⁻¹ 38,0 - 40,01170 1150 F 37,5 PS / 2200 min⁻¹ 38,5 - 40,51120 1100 PS / 2200 min⁻¹ B 36 36,5 - 38,51120 1100 PS / 2200 min⁻¹ A 33 38,0 - 40,01120 1100 PS / 2100 min⁻¹ F 36 1060 38.0 - 40.01050 B 34,5 PS / 2100 min⁻¹ 36,0 - 38,01060 1050 A 31,5 PS / 2100 min⁻¹ 36,0 - 38,01060 1050

engine por Full-load de Control-roe Test oil ten	elivery	Rotational-speed limitation	Fuel deli		Starting Idle switchir	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Intermedi rotational Torque-c travel	speed
rev/min	cm ³ /1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	mm .
1	2	3	4	5	6	7	8	

F 34,5	S PS /	2000 min	1
1000	37,0-		1010
В 33	PS /	2000 min	1
1000	35 , 5 -		1010
A 30	PS /	2000 min	1
1000	37,0-	39,0	1010
3 30	PS /	1800 min	1
900	34,0-		910
A 27	PS /	1800 min	1
900	35,0-		910
B 24	PS /	1500 min	1
750	33,0-		760
A 22,	5 PS /	1500 min	1
750	36,0-		760

engine por full-load de Control-roc Test oil terr	elivery	Rotational-speed fimitation	Fuel delin	very characteristics	Starting Idle switchir	luel delivery g point	Intermed rotational Torque (travel	speed
rev/min	cm ³ /1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1600 strokes		mm
1	2	3	1	5	10		+	

<u> -</u>	12						1	
E 62	PS / 3000 min	-1	·					
F 62 1500	40,5 - 42,5	1520						73.
B 60	PS / 3000 min	-1		· · · · · · · · · · · · · · · · · · ·				
1500	39,0 - 41,0	1520	- · · · · · · · · · · · · · · ·					
A 56	PS / 3000 min	-1						
1500	40,0 - 42,0	1520						
F 60	PS / 2800 min	-1						
1400	40,0 - 42,0	1420						
B 58	PS / 2800 min	-1						
1400	35,5 - 37,5	1420						
A 54	PS / 2800 min							
1400	40,0 - 42,0	1420						
F 53	PS / 2600 mir							
1300	40,0 - 42,0	1320						
B 56	PS / 2600 mir							
1300	38,0 - 40,0	1320		<u> </u>				
A 52	PS / 2600 mir	<u>1⁻¹</u>				~		•
1300	39,0 - 41,0	1320						
F 56	PS / 2500 mir		•			,		
1250	39,0 - 41,0	1270			••			
B 54	PS / 2500 min							
1250	37,5 - 39,5	1270						
A 50	PS / 2500 min							
1250	39,0 - 41,0	1270						

engine po Full-load d Control-rod Test oil ten	elivery	Rotational-speed limitation	Fuet deliv	very characteristics	Starting Idle switchin	,	Intermed rotational Torque-0 travel	speed
rev/min	cm³/1000 strokes	rev/min	rev/min	cm³/1000 strokes	rev/min	cm³/1000 strokes	rev/min	mm
1	2	3	4	5	8	7	19	

1	2	3	4	5	6	7	8	
		,	1	•	•	•		
F 54	PS / 2400 m	nin ⁻¹						
1200	39,0 - 41,0							
B 52	PS / 2400 m	nin ⁻¹						
1200	37,5 - 39,5	1220						
A 48	PS / 2400 m	nin ⁻¹						
1200	38,0 - 40,0							
F 52	PS / 2300 m	nin ⁻¹						
1150	38,0 - 40,0							
B 50	PS / 2300 m	nin ⁻¹						
1150	36, 5 - 38, 5							
A 46	PS / 2300 m	nin ⁻¹						
1150	37,5 - 39,5							
F 50	PS / 2200 r	min ⁻¹						
1100	39,0 - 41,0							
B 48	PS / 2200 i	min ⁻¹						
1100	37,0 - 39,0							
A 44	PS / 2200 i	min ⁻¹						•
1100	38,0 - 40,0	1120					<u></u>	
F 48	PS / 2100 i	min ⁻¹						
1050	37,5 - 39,5	1060				•		
B 46	PS / 2100 t	min ⁻¹						
1050	35,5 - 37,5							,
A 42	PS / 2100	min ⁻¹						
1050	36,0 - 38,0						,,	

engine pov Full-toad de Control-rod Test oil tem	elivery	Rotational-speed limitation	Fuel deliv		Starting tidle switching		Intermedi rotational Torque-c travel	speed
rev/min	cm ³ /1000 strokes	rev/min	rev/min	cm³/1000 strokes	tea/win	cm³/1000 strokes	rev/min	mm
۱, ا	2	3	4	5	6	7	8	

F 46	PS / 2000 min ⁻¹	L
1000		1010
B 44	PS / 2000 min ⁻¹	-
1000	35,5 - 37,5	1010
A 40	PS / 2000 min ⁻¹	l -
1000	36,0 - 38,0	1010
в 40	PS / 1800 min ⁻¹	l -
900	34,5 - 36,5	910
A 36	PS / 1800 min ⁻¹	l -
900	34,0 - 36,0	910
B 32	PS / 1500 min ⁻¹	l -
750	30,5 - 32,5	760
A 30	PS / 1500 min ⁻¹	l
750	33,0 - 35,0	760

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C. Settings for Fuel Injection Pump with Fitted Governor

engine pov full toad de Control-rod Test oil tem	elivery	Rotational-speed limitation	Fuel dela	very characteristics	Starting Idle switchir	fuel delivery	Intermedi rotational Torque o travel	speed
rev/min	cm ³ /1000 strakes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	mm
1	2	3	4	5	6	7	В	

PS / 3000 min⁻¹ F 93 39,5 - 41,51520 1500 PS / 3000 min⁻¹ B 90 1520 38,0 - 40,01500 PS / 3000 min⁻¹ A 84 39,0 - 41,01520 1500 PS / 2800 min⁻¹ F 90 39,5 - 41,51420 1400 PS / 2800 min⁻¹ B 87 38,0 - 40,01420 1400 PS / 2800 min⁻¹ A 81 39.0 - 41.01420 1400 PS / 2600 min⁻¹ F 87 39,5 - 41,5 1320 1300 PS / 2600 min⁻¹ B 84 38,0 - 40,01320 1300 PS / 2600 min⁻¹ A 78 1320 38,5 - 40,51300 PS / 2500 min⁻¹ F 84 39.0 - 41.01270 1250 PS / 2500 min⁻¹ B 81 1270 1250 37,0 - 39,0/ 2500 min⁻¹ A 75 1250 38.0 - 40.01270

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C. Settings for Fuel Injection Pump with Fitted Governor

engine por Full-load de Control-rod Test oil tem	elivery	Rotational-speed limitation	Fuel deln	very characteristics	Starting Idle switchir	fuel delivery g point	Intermed rotationa Torque: travel	l speed
rev/min	cm ³ /1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	tev/min	mm
1	2	3	4	5	6	7	8	ļ

PS / 2400 min⁻¹ F 81 38,0 - 40,01220 1200 PS / 2400 min⁻¹ B 78 1220 36,5 - 38,51200 PS / 2400 min⁻¹ A 72 38,0 - 40,01220 1200 PS / 2300 min⁻¹ F 78 38,0 - 40,01170 1150 PS / i 2300 min⁻¹ B 75 36,5 - 38,51170 1150 PS / 2300 min⁻¹ A 69 1170 37,0 - 39,01150 PS / 2200 min⁻¹ F 75 38,0 - 40,01120 1100 PS / 2200 min⁻¹ B 72 36,0 - 38,01120 1100 PS / 2200 min⁻¹ A 66 1120 37,0 - 39,01100 PS / 2100 min⁻¹ F 72 37,0 - 39,01060 1050 PS / 2100 min⁻¹ B 69 35,5 - 37,51060 1050 PS / 2100 min⁻¹ A 63 36,0 - 38,01060 1050

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C. Settings for Fuel Injection Pump with Fitted Governor

engine pov Full-load de Control-rod Test oil tem	elivery	Rotational speed limitation	Fuel deli		Starting Idle switchir	,	Intermedi rotational Torque-c travel	speed
rev/min	cm³/1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes		mm
1	2	3	4	5	6	7	8	ļ

	-{ 		
F 69	PS / 2000 min ⁻¹	•	
1000		1010	
B 66	PS / 2000 min ⁻¹		
1000		1010	
A 60	PS / 2000 min ⁻¹		
1000	35,0 - 37,0	1010	
B 60	PS / 1800 min ⁻¹		
900	33,5 - 35,5	910	
A 54	PS / 1800 min ⁻¹		
900	34,0 - 36,0	910	
B 48	PS / 1500 min ⁻¹		
750	31,0 - 33,0	760	
A 45	PS / 1500 min ⁻¹		
750	33,0 - 35,0	760	

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C. Settings for Fuel Injection Pump with Fitted Governor

engine po Full-toad d Control-ro Test oil ten	elivery	Rotational-speed limitation	Fuel dela	very characteristics	Starting Idle switchir	fuel delivery ng point	Intermed rotationa Torque- travel	speed
rev/min	cm ³ /1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	ten/win	cm³/1000 strokes	rev/min	l ww
1	2	3	4	5	6	7	8	

		1.	l i			7	D	
 '	2	3		5	6	7	8	
	 /	1						
B 35,5			222	50 5 55 5				
1500	55,0 - 57,0	1520	800	52,5 - 55,5				
A 32	PS / 3000	min ⁻¹						
1500	51,0 - 53,0	1520				•		
F 41	PS / 2800	min ⁻¹			_			
1400	66,5 - 68,5	1420	800	55,5 - 58,5				
F 38.5	PS/ 2500	min ⁻¹						
1250	62,5 - 64,5	1270	800	55,5 - 58,5				
B 37	PS / 2500	min ⁻¹						
1250	59,5-61,5		800	52,5 - 55,5				
A 34	PS / 2500	min ⁻¹						
1250	55,5 - 57,5							· · · · · · · · · · · · · · · · · · ·
F 36,5	PS / 2300	min ⁻¹						
1150	60,5 - 62,5		800	55,5 - 58,5				
В 35	PS / 2300	min ⁻¹						
1150	58,5 - 60,5		800	52,5 - 55,5				
A 32	PS / 2300	min ⁻¹					·	
A 32 1150	53,0 - 55,0							
							 	
F 33	PS / 2000		750	55,0 - 58,0				
1000	58, 5 - 60, 5		730			<u> </u>		
B 31	PS / 2000	min ⁻¹						
1000	55,0 - 57,0		750	52,5 - 55,5				
	5 PS / 2000	min-1						
A 28,	3 P3 / / / / / / / / / / / / / / / / / /	111 1 1 0						

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Checking values in brackets

* 1 mm less control rod travel than col. 2

engine pur full-toad de Control-rod Test oil tem	elivery	Rotational-speed limitation	Fuel deliv	.,	Starting Idle switchin		intermedi rotational Torque-c travel	speed
rev/min	cm ³ /1000 strokes	rev/min	rev/min	cm³/1000 strokes	rev/min	cm³/1000 strokes	rev/min	mm
1,	2	3	4	5	6	7	8	

B 28,5	5 PS / 1800 min ⁻¹				
900	52, 5 ÷\654, 5	910	750	52,0 - 55,0	
A 26	PS / 1800 min ⁻¹	•			
900	48,0 - 50,0	910			
B 24	PS / 1500 min ⁻¹				
750	46,5 - 48,5	760	750	50,5 - 53,5	
A 22	PS / 1500 min ⁻¹	o-			
750	51,0 - 53,0	760			

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engine po Full-load o Control-ro Test oil te	Jelivery	Rotational-speed limitation	Fuel deliv	rery characteristics	idle switchin		Intermed rotationa Torque - travel	speed
rev/min	cm ³ /1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min 6	cm ³ /1000 strokes	rev/min	mm
1	12	3	4	5	10	 		
B 53	PS / 3600 r	nin ⁻¹						
1500	54,5 - 56,5	1520	800	51,0 - 54,0	0			
A 48	PS / 3000 r	min ⁻¹						
1500	50,5 - 52,5	1520						
F 62	PS / 2800 r	nin ⁻¹						
1400	66,5 - 68,5	1420	800	54,0 - 57,	0			
F 58	PS / 2500 r	nin ⁻¹						
1250	62,5 - 64,5	1270	800	54,0 - 57,0	0			
В 56	PS / 2500 r	nin ⁻¹				-		
1250	59,5 - 61,5	1270	800	51,0 - 54,0	0			
A 51	PS / 2500 r	min ⁻¹				· · · · · · · · · · · · · · · · · · ·		
1250	54,5 - 56,5	1270	· · · · · · · · · · · · · · · · · · ·					
F 55	PS /: 2300 r	nin ⁻¹						
1150	58,5 - 60,5	1170	800	54,0 - 57,	0			
B 53	PS / 2300 r	nin ⁻¹						
1150	57,5 - 59,5	1170	800	51,054,	0			
A 48	PS / 2300 r	nin ⁻¹						•
1150	51,5 - 53,5	1170						
F 49,5	5 PS / 2000 r	nin ⁻¹		· 				
1000	57,5 - 59,5	1010	750	54,0 - 57,	0	•		
в 46,5	5 PS / 2000 r	nin ⁻¹					-	
1000	53,5 - 55,5	1010	750	51,0 - 54,	0	<u></u>		
A 43	PS / 2000 r	nin ⁻¹						
1000	48,5 - 50,5	1010						

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rev/min cm³/1000 strokes rev/min cm³/1000 strokes rev/min cm³/1000 strokes rev/min cm³/1000 strokes rev/min mm	engine po Full-load o Control-ro Test oil tei	delivery	Rotational-speed limitation	Fuel dela	very characteristics	Starting Idle switchir	fuel delivery ng point	Intermed rotationa Torque- travel	speed
	rev/min	cm³/1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	mm
	,	2	3	4	5	6	7	8	

B 43	PS / 1800 min ⁻¹				
900	52,5 - 54,5	910	750	52,0 - 55,0	
A 39	PS·/ 1800 min ⁻¹				
900	47,5 - 49,5	910			
В 36	PS / 1500 min ⁻¹				
750	49,5 - 51,5	760	650	49,0 - 52,0	
A 33	PS /: 1500 min ⁻¹				
750	45,5 - 47,5	760			

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C. Settings for Fuel Injection Pump with Fitted Governor

engine po Full-load c Control-ro Test oil tei	telivery	Rotational-speed limitation	Fuel deliv	very characteristics	Starting Idle switchir	fuel delivery ng point 1	Intermed rotationa Torque travel	speed
rev/min	cm³/1000 strokes	rev/min	rev/min	cm³/1000 strokes	rev/min	cm ¹ /1000 strokes	rev/min	l um
1	2	3	4	5	6	7	8	ļ
B 71 1500	PS / 3000 54,5 - 56,5	min ⁻¹ 1520	800	62,0 - 65,0)			
A 64	PS / 3000	min ⁻¹		•				
1500	49,5 - 51,5							
F 83	PS / 2800	min ⁻¹		-				
1400	65,5 - 67,5		800	63,0 - 66,0)			
F 78	PS / 2500	min ⁻¹						
1250	61,5 - 63,5	1270	800	50,0 - 53,0)	<u> </u>		
B 74,	5 PS / 2500	min ⁻¹						
1250	58,5 - 60,5		800	50,0 - 53,0)			· · · · · · · · · · · · · · · · · · ·
A 68	PS / 2500	min ⁻¹						
1250	53,5 - 55,5							
F 73	PS / 2300	min ⁻¹						
1150	60,5 - 62,5		800	52,0 - 55,0)	 		
B 71	PS / 2300	min ⁻¹						
1150	58,5 - 60,5		800	50, 0 - 53, 0)	,		
A 64	PS / 2300	min ⁻¹						
1150	51,5 - 53,5							

F 66 PS / 2000 min⁻¹
1000 57,5 - 59,5

1010

750 **52, 0 - 55, 0**

B 62,5 PS / i 2000 min⁻¹

1000 53, 5 - 55, 5

750

50,0 - 53,0

A 57 PS / 2000 min⁻¹

1000 48,5 - 50,5

1010

1010

48,5 - 50,5

45,5 - 47,5

PS / 1500 min⁻¹

750

A 44

750

C. Settings for Fuel Injection Pump with Fitted Governor

760

760

engine p Full-load (Control-ro Test oil te	delivery	Rotational-speed limitation	Fuel deliv	very characteristics	Idle	fuel delivery ng point I	intermed rotations Torque travel	I speed
rev/min	cm³/1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	mm
1	2	3	4	5	6	7	8	
B 57	PS / 1800 51,5 - 53,5	910	750	49,0 - 52,	0			
A 52	PS / 1800	min ⁻¹						
900	45,5 - 47,5	910		····			~~~	
B 48	PS / 1500	min ⁻¹						

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650

47,0 - 50,0

engine power full load delivery Control rod stop Test oil temp 40°C (104°F)		Rotational-speed	Fuel deliv	very characteristics	Starting Idle switchir	fuel delivery ng point	Intermed rotationa Torque travel	l speed
rev/min	cm ³ /1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	revimin	l mm
1	2	3	4	5	6	7	8	

1 1	2	13	19 13		_ `		
1		_ 1	, ,	•	•		
B 106	PS / 3000						
1500	55,5 - 57,5	1520	800	50,0 - 53,0			
A 96	PS / 3000	min ⁻¹					
1500	49,5 - 51,5	1520					
F 125	PS /: 2800	min ⁻¹					
1400	66,5 - 68,5	1420	800	54,0 - 57,0	· · · · · · · · · · · · · · · · · · ·		
F 117	PS / 2500	min ⁻¹					
1250	61,5 - 63,5	1270	800	54,0 - 57,0			
B 112	PS / 2500	min ⁻¹					
1250	58,5 - 60,5	1270	800	50,0 - 53,0			
A 102	PS / 2500	min ⁻¹					
1250	53, 5 - 55, 5	1270					
F 110	PS / 2300) min ⁻¹					
1150	59,5-61,5	=	800	54,0 - 57,0			
B 106	PS / 2300) min ⁻¹		-			
1150	56, 5 - 58, 5	1170	800	50,0 - 53,0			
A 96	PS / 2300) min ⁻¹					
1150	51,5 - 53,5	1170					
) min ⁻¹				· · · · · · · · · · · · · · · · · · ·	
F 99 1000	56,5 - 58,5		750	54,0 - 57,0			
		0 min ⁻¹					
B 94 1000	PS / 2000 53,5 - 55,5		750	50,0 - 53,0			
			·				
A 86		0 min ⁻¹					
1000	47,5 - 49,5	1010					

engine pow Full-load del Control-rod : Test oil temp	livery	Rotational-speed limitation			idle	Starting fuel delivery lidle switching point		iate I speed control
rev/min lo	cm ³ /1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	tek/win	mm
, .	2	3	4	5	6	7	8	

PS / 1800 min⁻¹ B 86 49,5 - 51,5 750 53,0 - 56,0 910 900 PS / 1800 min⁻¹ A 78 900 46,5 - 48,5910 PS / 1500 min⁻¹ B 72 47,0 - 50,049,5 - 51,5 750 760 650 PS / 1500 min⁻¹ A 66 45,5 - 47,5 750 760

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engine po Full-toad o Control-ro	ielivery id stop mp 40°C (104°F)	Rotational-speed limitation	Fuel deliv	ery characteristics	ldle switchir	fuel delivery	Intermed rotationa Torque travel	i speed control
rev/min	cm ³ /1000 strokes	rev/min	rev/min	cm³/1000 strakes 5	B tev/min	cm ³ /1000 strokes	rev/min 8	mm
ļ '	12	3		2	 		-	
F 33	PS / 2800 i	min ⁻¹						
1400	51,5 - 53,5	1420	800	46,0 - 49,0	0			
F 32	PS / 2500	min ⁻¹	•					
1250	52,5 - 54,5	1270	800	46,0 - 49,	0			
B 31	PS / 2500	min ⁻¹						
1250	49,5 - 51,5	1270	800	44,0 - 47,	0			
A 28	PS / 2500	min ⁻¹						
1250	49,5 - 51,5	1270 	·					·
F 30	PS / 2300							
1150	48,5 - 50,5	1170	800	46,0 - 49,	0			
B 28,	5 PS / 2300	min ⁻¹						
1150	45,5 - 47,5	1170	800	44,0 - 47,	0			
A 26	PS / 2300	min ⁻¹						
1150	45,5 - 47,5	1170						
F 26		min ⁻¹						
1000	43,5 - 45,5	1010	800	46,0 - 49,	0			
B 25		min ⁻¹						
1000	41,5 - 43,5	1010	800	44,0 - 47,	0			
A 23		min ⁻¹						
1000	41,5 - 43,5	1010						
A 21		min ⁻¹						
900	41,5 - 43,5	910			. <u>.</u>			
A 17		min ⁻¹						
750	38,5-41,5	760						



(I)

C. Settings for Fuel Injection Pump with Fitted Governor

engine pi Full load (Control ro Test oil te	delivery	Rotational-speed limitation	Fuel deli	very characteristics	Starting Idle switchir	fuel delivery ng point I	Intermed rotationa Torque- travei	speed
rev/min	cm ³ /1000 strokes	rev/min	rev/min	cm³/1000 strokes	rev/min	cm³/1000 strokes		mm
<u> </u>	2	3	4	5	6	7		
F 50	PS / 2800	min ⁻¹	•	•				
1400	48,5 - 50,5	1420	800	46,0 - 49,	0			
F 48,	5 PS / 2500	min ⁻¹	<u> </u>					
1250	50, 5 - 52, 5	1270	800	46,0 - 49,	0			
в 46,	5 PS / 2500	min ⁻¹						
1250	47,5 - 49,5	1270	800	43,0 - 46,	0			
A 42	PS / 2500	min ⁻¹						
1250	47,5 - 49,5	1270						
F 46	PS / 2300	min ⁻¹						
1150	47,5 - 49,5	1170	800	46,0 - 49,	0			
B 44	PS / 2300	min ⁻¹						
1150	45,5 - 47,5	1170	800	43, 0 - 46,	0			
A 40	PS / 2300	min ⁻¹			····		 	· · · · · · · · · · · · · · · · · · ·
1150	45,5 - 47,5	1170						

F 40 PS / 2000 min⁻¹

1000 44,5-46,5 1010 800 46,0-49,0

B 38,5 PS / 2000 min⁻¹

1000 42,5 - 44,5 1010 800 43,0 - 46,0

A 35 PS / 2000 min⁻¹

1000 42,5 - 44,5 1010

A 31,5 PS / 1800 min⁻¹

900 40,5 - 42,5 910

A 26 PS / 1500 min⁻¹

750 39,5 - 41,5 760

engine power Full load delivery Control-rod stop Test oil temp 40°C (104°F)		Rotational speed limitation	Fuel deli	,		Starting fuel delivery lidle switching point		intermediate rotational speed Torque-control travel	
rev/min	cm³/1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm³//1000 strokes	rev/min	mm	
1	2	3	4	5	6	7	8	L	

rev/min	cm³/1000 strokes	rev/min	rev/min	cm³/1000 strokes	1	cm ³ /4000 strokes	rev/min	lmm
1	2	3	4	5	6	7	B	
F 68	PS / 2800 r	nin ⁻¹						
1400	49,5 - 51,5	1420	800	46,0 - 49,0	<u> </u>			
F 66	PS / 2500 r	nin ⁻¹						
1250	50,5 - 52,5	1270	800	46,0 - 49,0	· · · · · · · · · · · · · · · · · · ·			
B 63	PS / 2500 i	nin ⁻¹						
1250	47,5 - 49,5	1270	800	44,0 - 47,0				
A 57,	5 PS / 2500 I	min ⁻¹						
1250	47,5 - 49,5	1270						
F 61	PS / 2300	min ⁻¹						
1150	47,5 - 49,5	1170	800	46,0 - 49,0) 			·
B 58,	5 PS / 2300	min ⁻¹						
1150	45,5 - 47,5	1170	800	44,0 - 47,0)			
A 53,	5 PS / 2300	min ⁻¹						
1150	45,5 - 47,5	1170						
F 53	PS / 2000	min ⁻¹						
1000	43,5 - 45,5	1010	800	46,0 - 49,0) 			
B 51	PS / 2000	min ⁻¹				,		
1000	41,5 - 43,5	1010	800	44,0 - 47,0) 			
A 46,	5 PS / 2000	min ⁻¹						
1000	41,5 - 43,5	1010						
A 42	PS / 1800	min ⁻¹						
900	40,5 - 42,5	910						
A 35	PS / 1500	min ⁻¹						
750	39,5 - 41,5	760						···

Testoil 4:0 4:113

engine por Full-load de Control-rod Test oil tem	elivery	Rotational-speed limitation	Fuel delivery characteristics		Starting fuel delivery ldlo switching point		Intermed rotationa Torque-t	l speed
rev/min	cm ¹ /1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	mm
1,	2	3	4	5	6	7	8	

<u> ' </u>	2 3				
	, ,	•	, ,	•	
F 102	PS / 2800 mi				
1400	49,5 - 51,5	1420	800	46,0 - 49,0	
F 99	PS / 2500 mi	<u>n-1</u>			
1250	50,5 - 52,5	1270	800	46,0 - 49,0	
B 95	PS / 2500 mi	n ⁻¹			
1250	47,5 - 49,5	1270	â0 0	44,0 - 47,0	
A 86	PS / 2500 mi	n ⁻¹			
1250	47,5 - 49,5	1270			
F 92	PS / 2300 mi	in ⁻¹			
1150	47,5 - 49,5	1170	800	46,0 - 49,0	
B 88	PS / 2300 mi	in ⁻¹	····		
1150	45,5 - 47,5	1170	800	44,0 - 47,0	
A 80	PS / 2300 m	in ⁻¹			
1150	45,5 - 47,5	1170			
F 80	PS / 2000 m	in ⁻¹			
1000	43,5 - 45,5	1010	800	46,0 - 49,0	
		1	 		
B 77 1000	PS / 2000 m 41,5 - 43,5	1010	800	44,0 - 47,0	
					 ~ ~ ~ ~ ~
A 70 1000	PS / 2000 m 41,5 - 43,5	1010			
					
A 63	PS / 1800 m				
900	40,5 - 42,5	910			
	5 PS / 1500 m				
750	39,5 - 41,5	760			

Tectoi-ISO 4113

engine power Full-load delivery Control-rod stop Test oil temp 40°C (104°F)		Rotational-speed limitation			Idle	Starting fuel delivery idle switching point		iate I speed control
rev/min	lcm ³ /1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	mm
1	2	3	4	5	6	7	8	

1	1	2	3	<u> </u>	5 6		 -	
r				'	·	•		
	B 48	PS / 3000	min ⁻¹					
	1500	47,0 - 49,0	1520	800	49,5 - 52,5			·
	A 43,5	PS / 3000	min ⁻¹					
	1500	44,0 - 46,0	1520					
	F 55	PS / 2800	min ⁻¹					
	1400	53,5 - 55,5	1420	800	52, 5 - 55, 5			
	F 53	PS / 2500	min ⁻¹					
	1250	55,5 - 57,5	1270	800	52, 5 - 55, 5			
	B 50	PS / 2500	min ⁻¹					
	1250	52,5 - 54,5	1270	800	49,5 - 52,5			
	A 46.5	PS / 2500	min ⁻¹					
	1250	48,0 - 50,0	1270		•			
	F 50	PS / 2300	min ⁻¹					
	1150	56,0 - 58,0		800	51,0 - 54,0			
	B 48.5	PS / 2300	min ⁻¹					
	1150	51,5 - 53,5		800	49,5 - 52,5			
	A 44	PS / 2300	min ⁻¹	·· ······				•
	1150	47,0 - 49,0						
	F 46	PS / 2000	min ⁻¹	 				
	1000	54,0 - 56,0		750	52, 5 - 55, 5			
	B 44	PS / 2000	min ⁻¹					
	1000	50, 5 - 52, 5		750	50,0 - 53,0			
	A 40	PS / 2000	min ⁻¹					
	1000	46,0 - 48,0						
						AND DESCRIPTION OF THE PERSON NAMED IN		

rev/min cm³/1000 strokes rev/min rev/min cm³/1000 strokes rev/min cm³/1000 strokes rev/min mm	engine power Full-toad delivery Control-rod stop Test oil temp 40°C (104°F)		Rotational-speed limitation	Fuel deln	very characteristics	Starting Idle switchin	fuel delivery	Intermediale rotational speed Torque-control travel	
1. 3 4 5 6 7 8 1	rev/min	cm³/1000 strokes	rev/min	rev/min	cm³/1000 strokes	rev/min	cm ¹ /1000 strokes	rev/min	l mm
	,	2	3	4	5	6	7	8	

B 40 PS / 1800 min ⁻¹ 900 49,5-51,5	1 - 910	750	50,0 - 53,0	o
A 36,5 PS / 1800 min ⁻¹ 900 45,0 - 47,0	910			
B 33,5 PS / 1500 min ⁻¹ 750 47,5 - 49,5	1 760			
A 30,5 PS / 1500 min ⁻¹ 750 43,5 - 45,5	l - 760			

engine power Full-load delivery Control-rod stop Test oil temp 40°C (104°F)		Rotational-speed limitation	Fuel delivery characteristics		Starting fuel delivery Idle switching point		Intermed rotationa Torque: Irave:	t speed
rev/min	cm³/1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ¹ /1000 strokes	rev/min	i mm
1,	2	3	4	5	6	7	8	
<u> </u>	1		1		•	•	•	•

rev/min	cm ³ /1000 strokes	rev/min	tev/min	1	1 1	cm ¹ /1000 strokes	1.	mm
1	2	3	4	5	6	'	8	
		_1						
B 64	PS / 3000 m							
1500	47,5 - 49,5	1520	800	49,0 - 52,0				
A 58	PS / 3000 m	nin ⁻¹						
	44,0 - 46,0	1520						
							-,	
F 74	PS / 2800 m		. -	** * **	1			
1400	53, 5 - 55, 5	1420	800	52, 0 - 55, 0	, 			
F 70,5	S PS / 2500 m	nin ⁻¹						
1250	52,5 - 54,5	1270	800	52,0 - 55,0)			
B 67	PS / 2500 m	nin-1	 					-
	49,0 - 51,0	1270	800	49,0 - 52,0)			
1230		 						
A 61	PS / 2500 m							
1250	44,5 - 46,5	1270	-	**************************************				
F 67	PS / 2300 m	nin ⁻¹		_				
	51,5 - 53,5	1170	800	52,0 - 55,0)			
		_:1		*				
	5 PS / 2300 m		800	49,0 - 52,0)			
	49,0 - 51,0	1170		77,U - JE,				···
A 58,5	PS / 2300 m	nin ⁻¹						
1150	44,5 - 46,5							
F 61	PS / 2000 m	nin ⁻¹						
1000	50,0 - 52,0	1010	750	49,5 - 52,	5			
				·				,
	S PS / 2000 m	 _		10	_			
1000	48,0 - 50,0	1010	750	49,5 - 52,				
A 53	PS / 2000 m	min-1						
1000	44,0 - 46,0							

Testeil450 4113

engine po Full-toad o Control-ro Test oil te	delivery	Rotational-speed limitation	Fuel deln	very characteristics	Starting Idle switching	fuel delivery ng point I	Intermed rotationa Torque- travel	speed
rev/min	cm³/1000 strakes	rev/min	rev/min	cm³/1000 strokes	rev/min	cm³/1000 strokes	rev/min	l ww
1	2	3	4	5	6	7	8	
B 53 900	PS / 1800 47,0 - 49,0	min ⁻¹ 910	750	49,5 - 52,	, 5			
		_1						
A 49	PS / 1800	min ⁻¹						

B 44,5 PS / 1500 min⁻¹

750 47,0 - 49,0 760

A 41 PS / 1500 min⁻¹

43,0 - 45,0

760

760

Testeil-130 4113

engine power Full load delivery Control-rod stop Test oil temp 40°C (104°F)		Rotational-speed limitation	Fuel delivery characteristics		Starting fuel delivery tidle switching point		Intermediate rotational speed Torque-control travel	
ev/min	cm³/1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	tev/min	cm ³ /1000 strokes	rev/min	mm
,	2	3	4	5	6	7	8	

tev/min	cm³/1000 strokes	rev/min		cm ² /1000 strokes	•	7 cm /1000 strokes	A S	· · · · · · · · · · · · · · · · · · ·
1	2	3	4	5	6	7	8	
	no / 2000	1						
B 96	PS / 3000 r		000	EA A _ EO A	`			
1500	51,5 - 53,5	1520	800	50,0 - 53,0	, 			
A 87	PS / 3000 i	min ⁻¹						
1500	47,5 - 49,5	1520						
F 112	PS / 2800 i	min ⁻¹		•			4,	
1400	58,0 - 60,0	1420	800	53,0 - 56,0)			
F 106	PS / 2500 i	mir ⁻¹						
1250	57,5 - 59,5	1270	800	53,0 - 56,0)			
B 101	PS / 2500 i	min ⁻¹						
1250	54,0 - 56,0	1270	800	50,0 - 53,0)			
A 92	PS / 2500 i	min ⁻¹						
1250	49,0 - 51,0	1270						· · · · · · · · · · · · · · · · · · ·
F 101	PS / 2300	min ⁻¹						
1150	57,5 - 59,5	1170	800	53,0 - 56,0	0			
В 97	PS / 2300	min ⁻¹						
1150	55,0 - 57,0	1170	800	50,0 - 53,	0			
A 88	PS / 2300	min ⁻¹						
1150	50,0 - 52,0	1170				_		
F 92	PS / 2000	min ⁻¹	 					
1000	52,5 - 54,5		750	50,0 - 53,	0			
B 88	PS / 2000	min ⁻¹						
1000	50,0 - 52,0		750	50,0 - 53,	0			
A 80	PS / 2000	min ⁻¹						
1000	45,5 - 47,5							
				 				

Testo [150 4113]

engine power Full-load delivery Control-rod stop Test oil temp 40°C (104°F)		Rotational-speed fimitation	Fuel delivery characteristics		Starting fuel delivery lide switching point		Intermediate rotational speed Torque-control travel	
rev/min	cm³/1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ¹ /1000 strokes	rev/min	mm
١,	2	3	4	5	6	7	8	
			1	1	7	Į.	•	•

	_1				
B 80	PS / 1800 min ⁻¹				
900	50,0 - 52,0	910	750	50,0 - 53,0	
A 73	PS / 1800 min ⁻¹	•			
900	45,5 - 47,5	910			
B 67	PS / 1500 min ⁻¹	•			
750	50,0 - 52,0	760	650	52,0 - 55,0	
A 61	PS / 1500 min ⁻¹				
750	45,5 - 47,5	760			

Testo#190 4113

2

Test Specifications Fuel Injection Pumps and Governors

WPP 001/4 MB 8,7 c 1

Edition

Testoil-ISO 4113

PE 6 A 90 D 410 RS 2124 X Komb.-Nr. 0 400 646 248

RQ 375/1275 AB 658 DL

supersede4.81

company Daimler-Benz

OM 360

125 kW (170 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings 2,15-2,25 (2,1-2,3) m

mm (from BDC)

		1291 - 290/				
Rotational speed	Control rod travel	Fuel delivery	Difference cm ³ /	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm ³ /100 strokes	100 strokes	mm	cm ³ /100 strokes	mm
1	2	3	4	2	3	6
1250	9,3-9,4	7.7 - 7.8	0,3(0,45)			
700	40.4.0		140 55)			
700	10,1+0,1	7,7 - 8,0	0,4(0,55)			
L		<u> </u>		<u> </u>		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin	g of slider	Full-load	speed re	gulation		Idle spec	ed regula	ation		Torque o	control
		Setting po	oint	Test spec	cifications	Setting p	oint	Test spe	cifications	ļ	
rev/min	Control rod travel mm 2	rev/min	Control rod travel mm 4	rev/min 5	Control rod travel mm 6	rev/min 7	Control rod travel rmm 8	rev/min 9	Control rod travel mm 10	rev/min	Control rod travel mm 12
700	15,6-16,4	700	16,0		1295-1310 1345-1375	375	7,5	375 5 5 0	min. 9,0 7,4 - 7,6 max. 1,0 505=2 mm	1250 1075 895 700	9,4-9,7 9,8-10,0

Torque-control travel on flyweight assembly dimension a =

0,4

Speed regulation 1295 - 1310 min⁻¹

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	lelivery on control lever np 40°C (104°F)	Control rod stop	Fuel deliv	very characteristics	Starting	Starting fuel delivery		
rev/mii: 1	cm ³ /-1000 strokes 2	rev/min 3	rev/min 4	cm³/-1000 strokes 5	rev/min	cm ¹ /100 strokes 7		
1250	77,0 - 78,0 (75,0 - 80,0)	650	700	77,0 -78,0 (75,0 - 80,0)	100	115,0-125,0 (112,0-128,0)		

Checking values in brackets

7.85

and Governors

WPP 001/4 MB 5,7 q Edition

En

EP/RSV 350-1400 AO B1080DL(1) PES 6 A 90 D 410 RS 2293

RS2293

350-1425 A2 B1028DL(2)

RS2293

350-1400 AO B 745L (3)

RS2293Z

350-1400 AO B 745L (4)

supersedee12.83

company: Daimler-Benz

OM352 (A)

92kW (125PS - 1-2) 115kW (156PS - 3)

123kW (168PS -

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from BDC)

Rotational speed rev/min	al speed Control rod Fuel delivery cm³/100 strokes 2 3		Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6		
1000	9	4,5 - 5,0	0,3(0,45)					
	6 12	1,8 - 2,6 7,3 - 8,2						
200	9	2,0 - 2,8						
				<u> </u>				

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

..1080DL (1)

Upper	rated speed		Intermediate rated speed				rated spe	3 Torque control		
Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel	rev/min	Control rod travel
1	2	3	4	5	6	7	8	9	10	11
ca.67	1400	16,0	l			ca.20		9,2	 	
	1450 1500	11,4 5,5	without auxiliary spring				100 350	19 - 21 8,9-9,5	1380 600	0 0,2-0,3
⑤	1470 1520 1640	8,0-10,4 3,8-6,8 0,3-1,0	with auxiliary spring				500 700	3,6-6,2 0 - 1		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-load stop					Starting Idle	fuel delivery	Se idle stop		
Test oil tem rev/min 1	o. 40°C (104°F) cm ³ /1000 strokes 2	Note: changed to rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	7 MOR. HOW	rev/min 8	Control rod travel mm 9	
(1) 1400	63,0 - 64,0 (61,0 - 66,0)	1450-1460*	600	5 1, 0 - 53, 0 (49, 0 - 55, 0)	100 1520	14,7-15,3 -1540 = 4,0			

Checking values in brackets

* 1 mm less control rad travel than col. 2

8.85

B. Governor Settings

									,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	, , , , , , , , , , , , , , , , , , ,
1 Upper	rated speed		Intermediate rated speed				r rated spe	3 Torque control		
Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	•	5	6	7	8	9	10	11
ca.60	1425	16,0	 				350	7,5	1400	0
	1500 1560	11,5 6,5	without spring	t auxı	liary		200 350	19 - 21 7,2-7,8	800	0
	1500	10,0-12,2					600	1,0-4,5	1	
⑤	1600 1760	3,8-6,0 0,3-1,0	with au	ıxilia	ry		780	0 - 1	450	0,4-0,6

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-load stop		6 Rotational- speed limitat. 3a Fuel delivery characteristics			Starting Idle	tuel (delive	Sa) Idle stop		
Test oil ten rev/min 1	cm ³ /1000 strokes	Note: changed to rev/min 3	rev/min 4	cm³/1 000 s trokes 5	rev/min	7	mm	RW	rev/min 8	Control rod travel mm 9
(2) 1400	60,0 - 61,0 (58,0 - 63,0)	1450-1460*	500	46,0 - 48,0 (44,0 - 50,0)	100	14	4,7-	-15,3		
	·		69							

Checking values in brackets

* 1 mm less control rod travel than col. 2

Testoil-ISO 4113

B. Governor Settings

745L (3)

Upper rated speed Degree of deflection of control lever rev/min 1 2		Control rod travel mm	Degree of Control rod Degree deflection travel		Degree of deflection of control	rated spe rev/min 8	Control rod travet mm	(3) Tor rev/min 10	Control rod travel	
ca.63	1400 1500 1580	16,0 9,8 3,8	without spring	: auxi	liary	ca.29	350 200 350	7,9 19 - 21 7,6-8,2		
ca.61	1400 1525 1650	ca. 11,9 ca. 4,6 0,3-1,0	with auxiliary spring					3,1-5,5 0 - 1		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-load stop		6 Rotational- speed limitat.		3a Fuel delivery characteristics		fuel delivery	5a Idle stop	
Test oil tem rev/min 1	p. 40°C (104°F) cm³/1000 strokes 2	Note: changed to rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rav/mm	cm ³ /1000 strok es 7	rev/min	Control rod travel mm 9
(3) 1380	74,5 - 75,5 (72,5 - 77,5)	1420-1430*			100	78,0-88,0 (75,0-91,0)	350	7,9

B. Gov	remor :	Settings			RSV.	.AOC 745	5 L ((4) M	B 5,7	9 -
Degree of deflection of control lever 1	deflection of control mm mm rev/min lever 2 3			diale rated	8pecd	Control- lever deflection in degrees 7	- Lowe/ rated speed Control rod travel mm 8 9		3 To	rque control Control rod travel mm 11
loose	800 x =	0,3-1,0	-	•	•	ca. 33	350 100 350	7,4 min.19,0 7,8-8,0	-	-
ca. 66	10,9 4,0 1700	1420-1430 1530-1560 0,3-1,7						0=2,0		

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop emp. 40°C (104°F)	Rotational- speed limitst (3a) Fuel deliver characterist		el delivery eracteristics	Starting (Cor		
rev/min	cm ³ /1 000 strokes 2	changed to)	rev/min 4	cm³/1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	travel mm 9
1380	75,5-76,5 (73,5-78,5)	1420-1430*	.	-	100	78,0-88,0 (75,0-91,0		-

Checking values in brackets

* 1 mm less control rod travel than col. 2

B. Governor Settings

18 0 7	r rated speed Control rod travel mm	Intermed	diate rated	speed 6	Control- lever deflection in degrees 7	Lower nev/min 8	rated speed Control rod travel mm	 rque control Control rod travel mm 11
			_	•				
29								

C. Settings for Fuel Injection Pump with Fitted Governor

	M-load stop imp. 40°C (164°F)	Note:			Starting f	uel delivery (5)		Idle stop	
rev/min 1	cm³/1000 strokes 2	changed to) rav/min 3	rev/min 4	cm4/1990 strokes 5	r ev /min 6	cm4/1000 strokes 7	rev/min 8	travel mm 9	
:									

Checking values in brackets En

* 1 mm less control rod travel than col. 2

WPP 001/4 MB 5,7 q 4

Edition

3.

PES6A 90 D 410 RS 2293 RSV 350-1300 AOB 1101 DL AOC 1101 L Komb.-Nr. 0 400 876 256

superseden 0.82 company: Paimler-Benz engine. OH 352 A

110 kl! (150 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

mm (from BDC)

Port closing at pres	noka (S	2,1-2,3)				
Rotational speed		Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min 1	mm 2	cm ³ /100 strokes 3	cm ³ / 100 strokes 4	mm 2	cm ³ /100 strokes 3	mm 6
1300	10,6+0,1	7,0 - 7,1	0,3(0,45)			
350	6,9-7,1	0,9 - 1,5	0,2(0,4)			
]]		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper Degree of deflection of control lever		Control rod travel	Intermediate Degree of deflection of control lever	rated spe rev/min 5	ed Control rod travel mm	4 Lower Degree of deflection of control lever 7	rated spe rev/min 8	Control rod travel mm	rev/min	que control Control rod travel mm
loose	800 0,	3-1,0	-	-	-	ca.18	350	6,5	1300	0,6+0,1
	x = 3	,0					100 350	5,9-7,1		0,9+0,2 1,3+0,1
ca.55	9,6 4,0 1500-	1340-1350 1375-1405 3,2-1,7	*****	· ••••••••••••••••••••••••••••••••••••		3	465-5	25=2,0mm	<u> </u>	

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-lo	pad stop	Rotational-speed limitat. Salar Fuel delivery characteristics			Starting Idle	fuel delivery	(5a) Idle stop	
Test oil temp. 40°C (104°F) rev/min cm³/1000 strokes 1 2		Note: changed to rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6 7		rev/min 8	Control rod travel mm 9
1300	70,0 - 71,0 (68,0 - 73,0)	1340-1350*	500	62,0 - 64,0 (60,0 - 66,0)	1	80,0-90,0 (77,0-93,0) - 14,6 - 15,0 mm RW		

Checking values in brackets

* 1 mm less control rod travel than col. 2

8.85

40

WPP 001/4 MB 5,7 q 8 3. Edition

En

PES 6 A 90 D 410 RS 2293 Komb.-Nr. 0 400 876 316 RSV 350-1200 AOB 1101-1 L AOC 1101-1 L supersed Daimler-Benz company OM 352 engine 70 kW (95 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

2,15-2,25
Port closing at prestroke (2,10-2,30)

Testoil-ISO

mm (from BD&W = 9,0-12,0 mm

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod	Fuel delivery	Spring pre tensioning (torque control valve)
rev/min	mm (2)	cm³/100 strokes	cm³/ 100 strokes	mm	cm ¹ /100 strokes	mm
1		3	4	2	3	6
1200	8,4-8,5	4,5-4,6	0,3(0,45)			
350	7,1-7,3	0,8-1,5	0,2(0,4)			
ı					1	
				Ì	•	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 Uppe	r rated speed	rev/min Control rod	Intermediate rated speed			(4)	Lower	rated speed	3 forque control		
Degree of deflection of controt lever	travel mm	travel mm rev/min	4	5	6	Control- lever deflection in degrees 7	rev/min 8	travel mm 9	rev/miii 10	travel mm 11	
loose	800	0,3-1,7	-	-		-	350	7,2	1200	, , ,	
	x =	4,0					350	7,1-7,3	600 850	9,6-9,7 9,3-9,5	
ca.54	7,4 4,0 1400	1220-1230 1290-1320 0,3-1,4					455 -515	= 2,0	1000	8,7-9,0	

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

20	ull-load stop	Rotational- speed limitat	Starting t	luel delivery 5	4a) Idle stop			
	emp. 40°C (104°F) cm ¹ /1000 strokes 2	Note changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm ¹ /1000 strokes 7	rev/min 8	Control rod travel mm 9
1200	45,0-46,0 (43,0-48,0)	1220-1230*	600	43,0-45,0 (40,5-47,5)	100	78,0-88,0 (75,0-91,0 = 14,9 - 15,3 mm RW) -	-

Checking values in brackets

* 1.mm less control rod travel than col 2

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Test Specifications Fuel Injection Pumps and Governors

WPP 001/4 MB 5,7 z 2. Edition

En

PES 6 A 90 D 410 RS 2293 Komb.-Nr. 0 400 876 306 RSV 750-1500 A 2 B 2156 L A 2 C 2156 L supersedes 10.82

company: Daimler-Benz

engine: OM 352

45 kW (61 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings 2,15-2,25 2010 10 2010

Port closing at prestroke

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference cm ³ /	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm ³ /100 strokes	100 strokes	mm	cm ³ /100 strokes	mm
1	2	3	4	2	3	6
1450	6,8-6,9	3,5 - 3,6	0,3 (0,45	<u> </u>		
750	4,9-5,1	0,7 - 1,3	0,2 (0,4)			
			1			

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper	rated speed		Intermediate	rated spe	ed	4 Lowe	r rated spe	ed	3 Torque control	
Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel mm	rev/min	Control rod travel
1	2	3	4	5	6	7	8	9	10	11
lose	800	0,3-1,0	-	-	-	ca.40	750	5.0	_	-
	x =		į				750	4,9-5,1 30 - 2,0		
ca.67	7,0	1495-1500 1512-1533 0,3-1,0					/ / 0-8	50 = 2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-los	nd stop	6 Rotational- speed limitat.		el delivery nracteristics	Starting Idle	fuel delivery	(5a) Idle stop		
Test oil temp rev/min 1	. 40°C (104°F) cm ³ /1000 strokes 2	Note: changed to rev/min 3	rev/min	cm ³ /1000 strokes	rev/min	7	rev/min 8	Control rod travel mm 9	
1450	34,5-35,5 (32,5-37,5	1495-1500*	-	-	100	78,0- 6 8,0 (75 ,0- 91 , 0	-	-	
;									

Checking values in brackets

* 9 mm less control rod travel than col. 2

8.85

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WPP 001/4 MB 5,7 q 11

2. Edition

PES 6 A 90 D 410 RS 2293 Komb.-Nr. 0 400 876 329 RSV 350-1100 AOC 2002-1 L

supersedes 1.85
company Daimler-Benz
engine OM 352
70 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-150 4113

2,15-2,25 (2,10-2,30)

mm (from BDC)

	٠,	_,.0 _,00,				
Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rewmin	mm (2)	cm ¹ /100 strokes	cm³/ 100 strokes	mm	cm 1100 strokes	mm
1	2	3	4	2	3	6
1090	9,1-9,2	4,8-4,9	0,3 (0,45)			
350	7,2-7,4	0,8-1,4	0,25(0,45)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	leffection mm travel mm rev/min			Intermediate rated speed 4 5 6				rateri speed Control rod travel mm	IL 9 /	rque control Control rod travel mm
loose	800 x =	0,3-1,0	-	-	•	ca. 35	350 100	7.3 min.19,5	1090 800 975	10,1-10,2
ca. 56	8,1 4,0 1300	1130-1140 1190-1220 0,3-1,7					350 470 - 5	7,2-7,4 30 = 2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Fu	II-load stop	Rotational- speed fimitat		uel delivery naracteristics	Starting f	luel delivery 5	4a td		
1	mp 40°C (104°F) cm ^{1/} 1000 strokes	Note changed to) rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	ten/wiu	Control rod travel mm	
1	2	3	4	5	6	7	8	9	
1090	48,0-49,0 (46,0-51,0)	1130-1140*	800	53,0-55,0 (50,5-57,5)	100	78,0-88,0 (75,0-91,0	-	-	
				•					

Checking values in brackets

* 1 mm less control rod travel than col 2

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WPP 001/4 MB 5,7 q 7

3. Edition

En

PES 6 A 90 D 410 RS 2293 Z

RSV 350-1300 A 0 B 1101 DL

supersede 2.85

Komb.-Nr. 0 400 876 257

1101-2L A O C 1101-2L company Daimler-Benz

engine OM 352

70 kW (95 PS) Unimog

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

2,15-2,25 (2,10-2,30)

mm (from BDC)

		2,10 2,007				
Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm (2)	cm ¹ /100 strokes	cm ³ / 100 strokes	mm	cm //100 strokes	mm
1	2	3	4	2	3	6
1300	8.2-8.3	4.5 - 4.6	0,3(0,45)			
350	6,6-6,8	0,8 - 1,4	0,2(0,4)			
			Ì			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 Uppe	er rated speed	rev/min	Interme	diate rate	speed	(4)	Lower	rated speed	(3) To	rque control
Degree of deflection	Control rod travel	Control rod travel			1	Control- lever	1	Control rod travel		Control rod travel
of control lever	mm	mm rev/min				deflection in degrees	rev/min	mm	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
loose	800	0,3-1,0	-	-	-		350	6,7	1300	8,2-8,3
	× = 4,75						100	min.19,0	500 9 00	9,6-9,7 8,9-9,1
ca.63	7,2	1340-1350					350	6,6-6,8	1 075	8,3-8,6
2 a	4,0 1500	1395-1425 0,3-1,7					450-51	0= 2,0		
	1300	0,3-1,7				İ	l			

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

6	ill-load stop	6 Rotational- speed limitat	39 FL	uel delivery naracteristics	Starting fuel delivery 5 4a Idle stop				
rev/min	emp 40°C (104°F) cm /1000 strokes 2	Note changed to) rev/min 3	rev/min 4	cm ¹ /1000 strokes 5	rev/min 6	cm ¹ /1000 strokes 7	rev/min 8	Control rod travel mm 9	
1300	44,5-45,5 (42,5-47,5)	1340-1350*	500	39,0-42,0 (36,5 -44, 5)	100	78,0-88,0 (75,0-91,0		-	
							•		

Checking values in brackets

* 1 mm less control rod travel than col 2

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Testoil-ISO 4113

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 FIA 5,5c 4. Edition

PES 6 A 90 D 410 RS 2633

RQV 300-1500 AB 1152 L

supersedes 8.82

Komb.-Nr. 0 400 846 482

company: FIAT

8060.04.661 engine: 81 kW (110 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,2-2,3 mm (from BDC)

Rotational speed rev/min 1		Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm 2	Fuel dalivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1500	9,0-9,1	4,9-5,1	0,3 (0,49)		
300	8,2-8,4	1,1-1,7	0,2 (0,4)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed			Intermediate	rated sp	eed	Lower rated	speed		Sliding sleeve travel	
deflection	rev/min Control rod travel mm 2	mm .		Degree of deflection of control tever	rëv/min 5	Control rod travel mm 4	Degree of deflection of control lever 7	rev/min 8	Control roci travel mm 3		0
max.	1525	15,2-17,	8	•	1	-	ca.17	300	8,2-8,4	250 670 1080 1500	,1-1,3 \$,5-4,8 5,0-6,2 8,3
ca.59	8,0 4,0 1800	1540-1556 1635-1669 0 - 1,0					330-430 ③			, 500	0,0

Torque control travel a = 0,6 mi

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Ilmitation intermediate speed	Fuel delivery characteristics (5.) high ide speed (55)		Starting idle switch!:		Torquo-	Control (S)
rev/min	cm ³ /1000 strokes	rev/min 49	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	LEA\LuiU	
1	2	3	4	5	8	7	8	•
1500	48,5-49,5 (46,5-51,5)	1540-1550	900 500	42,0-45,0 (40,0-47,0) 36,0-38,0 (33,5-40,5)	100	68,0-78,0 (65,0-81,0) = 13,4-13,6 mm RW	500	9,0+0,1 9,6+0,1 9,4+0, 9,0+0,

Checking values in brackets

* 1 mm less control rod travel than col. 2 8.85

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Geschäftsbereich KH. Kundendienst. Kfz-Ausrüstung.

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WPP 001/4 FIA 5,5 d

4. Edition

PES 6 A 90 D 410 RS 2633

ROV 300-1500 AB 1165 L

supersedes 5.84

Komb.-Nr. 0 400 846 494

Fiat company: 8060.04.662 engine:

80.8 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	stroke (2	2,15-2,35)	mm (from BDC)			
Rotational speed	Control rod travel	Fuel delivery cm ³ /100 strokes	Difference cm ³ / 100 strokes	Control rod travel mm	Fuel delivery cm ³ /100 strokes	Spring pre-tensioning (torque-control valve)
	-	3			 	
1500	9,1-9,2	5,3 - 5,4	0,3(0,45)			
300	7,9-8,1	0,9 - 1,5	0,2(0,4)			
	j			1		

Adjust the fuel delivery from each outlet according to the values in g

B. Governor Settings

Upper rated	speed		•	Intermediate	rated sp	rated speed Lower rated				Sliding sleeve travei	
Degree of deflection of control lever	rod travel	Control rod travel mm rev/min 3	9	Degree of deflection of control lever	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever	rev/min	Control rod travel mm 3	rev/min	0
max.	1530	15,2-17,	8	-	•	-	ca. 17		nin. 9,2	250	1,1-1,3
ca. 59		1540-155 1645-167						300	7,9-8,1		4,5-4,8 6,0-6,2 8,4
	1800	0 - 1,					31 5-415 30			300	0,4

Torque control travel a =

C. Settings for Fuel injection Pump with Fitted Governor

Full-load of Control-ro Test oil ter		limitation Intermediate speed	(3)		Starting Idle switching		Torque-control 5 travel Control rod	
rev/min	cm ³ /1000 strokes	rev/min 4a	rev/min	cm³/1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9
1500	52,5-53,5 (50,5-55,5)	1540-1550*	500 930	(36,0-43,0)	100	68,0-78,0 (65,0-81,0) = 13,2-13,6 nm RW	1500 500 930 1130	9,1+0,1 9,6+0,1 9,3 + 0,2 9,1+0,3
<u></u>								

Checking values in brackets

1 mm less control rod travel than col. 2

8.85

BOSCH

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WPP 001/4 KHD 3,0 a 1

2. Edition

En

PES 3 A 90 D 410/3 RS 2640 Komb.-Nr. 0 400 863 006

RSV 325-1150 AOC 2157-1 L

supersedes 4.85 company KHD

engine F 3 L 913

37 kW /2300 min⁻¹

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,5-2,6 (2,45-2,65)

mm (from BDC)

	(2	,45-2,05/				
Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm (2)	cm ³ /100 strokes	cm ¹ / 100 strokes	mm	cm 1/100 strokes	mm
1	2	3	4	2	3	6
1140	9,6-9,7	6,6-6,7	0,3(0,45)			_
350	7,6-7,8	1,0-1,6	0,2(0,4)			
				ŀ		
			ĺ			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm		Interme	diate rated	speed	Control- lever deflection in degrees 7	_	rated speed Control rod travel mm	11 3 1	rque control Control rod travel mm
loose	800 x =	0,3-0,7 4,25	-	•	•	ca. 23	350 350 500-560	7,2 7,6-7,8	1140 500 800	9,9-10,0 9,9-10,0
(23) ⁶³	8,6 4,0 1430	1175-1185 1230-1260 0,3-1,4	i				500-560	= 2,0	1040	9,7-9,9

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	II load stop		Rotational-speed limitat Note: 1			uel delivery 5	4a) Idle stop	
rev/min	emp 40°C (104°F) cm1/1000 strokes	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm ¹ /1000 strokes	rev/min	Control rod travel mm
1140	65,5-66,5 (63,5-68,5)	1175-1185*	500 800	50,5-52,5 (48,0-55,0) 58,5-60,5 (56,0-63,0)	100	11,0-11,4 mm RW	-	-

Checking values in brackets

* 1 mm less control rod travel than col 2

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WPP 001/4 VAL 4,4 a

4. Edition

PES 4 A 95 D 320 RS 2654 RSV 325-105

RSV 325-1050 A 2 B 2178 R

Komb.-Nr. 0 400 874 236

supersedf 5.84
company Valmet
engine 411 DS 8

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 411

2,5-2,6 (2,45-2,65)

mni (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm ②	cm ³ /100 strokes	cm ¹ / 100 strokes	mm	cm /100 strokes	mm 6
1 4050	0.405	7770	0.25/0.63	2	3	
1050	9,4-9,5	7,7-7,9	0,35(0,6)		_	
325	4,9-5,1	1,2-1,5	0,35(0,5))		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 0000	er rated speed		Intermediate rated speed			(4)		rated speed	(3) to	rque control
Degree of deliection of control lever	Control rod travel mm	Control rod travel mm rev/min	4	5	6	Control- lever deflection in degrees 7		Control rod travel mm	rev/min	Control rod travel mm
loose	800 x=	0,3-1,0	-	<u>-</u>	-	ca.25	325 100	4.5 min.19,5	1050 500	9,4-9,5 10,4-10,5
ca.47	8,4 4,0 1305	1090-1100 1140-1170 0,3-1,7					325 405-4	4,9-5,1 65=2,0	840	9,9-10,1

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2b) F(ill-load stop	Rotational- speed limitat		uel delivery paracteristics	Starting 1	uel delivery 5	(4a) ldt	(4a) Idle stop	
Test oil to	emp. 40°C (104°F) cm /1000 strokes	Note changed to) rev/min	rev/min	cm³/1000 strokes	rev/min	cm /1000 strokes	rev/min	Control rod travel mm	
1	2		 4	5		<u> </u>	<u> </u>	9	
1050	77,0-79,0 (75,0-81,0)	1090-1100*	500	76,0-79,0 (73,5-81,5)	100	185,0-195 (182,0-198		5,0	
			750	82,5-84,5 (80,0-87,0)		=19,5-21,0 mm RW) 	i i	

Checking values in brackets

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^{* 1} mm less control rod travel than col 2

40

WPP 001/4 VAL 3,3 a

5. Edition

PES 3 A 95 D 320 RS 2655

RSV 325-1150 A 2 B 2178-1 R

supersede 5.84 Valmet company 311 DS 6

Komb.-Nr. 0 400 873 032 1-2-3 je 120° $\stackrel{+}{=}$ 0,5° ($\stackrel{+}{=}$ 0,75°)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(2.45 - 2.65)

mm (from BDC)

n ¹ /100 strokes cm ¹ / 100 strokes 4	mm 2	cm ¹ /100 strokes	mm 6
7	7,8-8,0 0,35(⁴ ² ² ² ³ (3,8-8,0) (3,6)	4 2 3 7,8-8,0 0,35(0,6)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 1	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min 3	Intermed	diate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	(3) to	rque control Control rod travel mm 11
loose	800 x=	0,3-1,0 5,0	•	•	-	ca.24	325 100 325	4,5 min.19,5 4,9-5,1	1150 500 915	9,4-9,5 11,1-11,2 10,2-10,4
ca.50	8,4 4,0 1405	1090-1200 1240-1270 0,3-1,7						65=2,0		,.

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pun:p with Fitted Governor

169	emp. 40°C (104°F) cm³/1000 strokes	Rotational- speed limitat Note: changed to .) rev/min		el delivery paracteristics cm ³ /1000 strokes	Starting f Idle rev/min	cm ² /1000 strokes	9	e stop Control rod travel mm
1150	78,0-80,0 (76,0-82,0)	1190-1200*	500	86,0-88,0 (83,5-90,5)	100	185,0-195 =19,5-21, mm RW		-

Checking values in brackets

* 1 mm less control rod travel than col. 2

7.85

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WPP 001/4 MWM 4,1 b
3. Edition

En

PES 4 A 90 D 320/3 RS 2659 Komb.-Nr. 0 400 864 057 RSV 325-1500 A2B 505-2 R A2@ 505-2 R company engine D 266 B-4

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,95-3,05 (2,90-3,10)

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque control valve)
rev/min	mm (2)	cm1100 strokes	cm ¹ / 100 strokes	mm	cm1/100 strokes	mm
1	2	3	4	2	3	6
1500	10,5+0,1	9,0-9,1	0,3 (0,45			
325	6,4-6,6	1,1-1,7	0,2 (0,4			
			İ			
	•	İ				
		1	l	I		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min	Intermed	diate rated	speed	Control- lever deflection in degrees	Lower rev/min 8	rated speed Control rod travel mm	はっし	rque controt Controt rod travet mm
100se ca.66	800 x = 9,5 4,0 1780	0,3-1,0 5,5 1540-1550 1590-1620 0,3-1,7	-	-	-	ca.27	325 100 325	6,0 min.19,5 6,4-6,6 20 = 2,0	-	-

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop emp 40°C (104°F)	Rotational- speed limitat	39 Fu	nel delivery naracteristics	Starting (uel delivery 5	4a) Idi	e stop Control rod
rev/min	cm ³ /1000 strokes 2	changed to) rev/min 3	rev/min 4	cm³/1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	travel mm 9
1500	89,5-90,5 (87,5-92,5)	1540-1550*	-	-	100	131,0-141 (128,0-144 = 19,5- 21,0 mm RW	,0)	-

Checking values in brackets

* 1 mm less control rod travel than col 2

BOSCH

Geschäftsbereich KH. Kundendienst. Kfz-Ausrustung £ 1980 by Robert Bosch GmbH, Postfach 50, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprime en République Fédérale d'Allemagne par Robert Bosch GmbH. 7.85

WPP 001/4 MB 2.0 L

3. Edition

PES 4 M 55 C 320 RS 152-1 RSF 375/2300 M 55

Komb.-Nr. 0 400 074 965/Sales model 0 400 074 964

0-90-180-270

1-3-4-2

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

supersedes 6.84

company Daimler-Benz

engine OM 601 53 kW

Europa

A. Fuel Injection Pump Settings

Port closing at prestroke

2,00-2,10 (1,95-2,15)

mm (from BDC)

Control rod travel

Note: Before starting testing, observe the important instruc-

tions on the reverse.

RW 20.0-22.0 mm

Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (compensating valve)
mm	cm ³ /100 strokes	cm ³ /100 strokes	mm	cm³/100 strokes	mm
2	3	4	2	3	6
11,1+0,1	3,1-3,2	0,25 (0,3)			
5,4-5,6	0,5-0,6	0,10(0,15) 0,25(0,3) 0,25(0,3)			
	travel mm 2 11,1+0,1	travel cm ³ /100 strokes 2 3 11,1+0,1 3,1-3,2	travel mm cm³/100 strokes 2 3 cm³/100 strokes 4 0,25 (0,3) 5,4-5,6 0,5-0,6 0,10(0,15) 0,25(0,3)	travel travel travel travel travel mm 2 cm ³ /100 strokes 4 2 2 11,1+0,1 3,1-3,2 0,25 (0,3) 5,4-5,6 0,5-0,6 0,10(0,15) 0,25(0,3)	travel travel cm³/100 strokes cm³/100 strokes mm cm³/100 strokes 2 3 11,1+0,1 3,1-3,2 0,25 (0,3) 5,4-5,6 0,5-0,6 0,10(0,15) 0,25(0,3)

Set uniform delivery according to the values in

Checking values in brackets

B. Governor Settings

Lower rated spe							ntrol rod trav	trol rod travel		
	Control rod travel	Rotational speed	Degree of deflection of control		Control rod travel	Rotational speed			Rotational speed	Control rod travel
1 1	mm	rev/min	lever		mm	rev/min			rev/min	mm
1	2	3	4		5	6		7	8	9
	min.11,5 5,4-5,6 4,4-4,6 - 1,5	250 375 400** 630-730	50	(2) (3) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4	10,3-10 7,8-8,2 -		2200 2500	(2) (3) (4)	1 1000	min.20,1 10,8-11,0 11,1-11,2

C. Settings for Fuel Injection Pump with Governor Mounted

Full-load d	Jelivery (19)	Full-load speed (8a	Variations delivery	in fuel (17)	Starting t	uel delivery	
Test oil ter	mp 40°C (104°F)			1 (18)		1	Difference
rev/min	cm³/1000 strokes	rev/min	rev/min	cm³/1000 strokes	rev/min	cm³/1000 strokes	cm ³ /1000 strokes
1	2	3	4	5	6	7	8
2200	33,0-35,0 (32,0-36,0)	2500 * 7,8-8,2	800	34,0-35,5 (33,0-36,5)	100	min. 55	6,0
	(02,0 00,0)	mm RW		(60,6 00,6)	375	5,0-6,0 (4,5-9,0)	1,0 (1,5) (5)
			1000	31,0-32,0			
				(30,0-33,0)	2500	22,0-26,0 (21,0-27,0	2,5 See (3,0)Point (6)

Checking values in brackets

* ca. 2,4

less control rod travel than in Column 2

Important:

Test specifications apply to control rod stop screw with collar 6.3 mm dia. and thread M 10×1 .

For pump versions with control rod stop screw with collar 5.3 mm dia. and thread M 8 x 1, all specified control rod travel values must be increased by $0.5\ \text{mm}$.

- ** Checking the idle speed auxiliary spring setting at n = 400 rpm, control rod travel (4.3-4.7 mm)
- 2. <u>Setting the idle control lever position:</u>

At 1000 rpm, control rod travel 0.9 - 1.0 mm.

3. Checking the idle speed auxiliary spring shut-off

Control lever position 50°, after change-over point (from starting curve) until 1000 rpm, max. permissible control rod travel 0.2 mm. Control lever position 48.5°; after change-over point (from starting curve) control rod travel must be greater than 0.2 mm.

4. Checking the pneumatic shut-off box

Control lever on idle stop. At n = 375 rpm and pu = 450 mbar (vacuum) (338 mm Hg), the control rod must travel rapidly to control rod position = 0 mm.

- 5. Overflow valve 1 469 990 351,
- 6. Port closing difference between largest/smallest value max. 1° camshaft angle.
- 7. Setting the idle speed control rod travel on the pneumatic idle boost box

When doing this, release the lock nut.

8. Checking the pneumatic idle boost:

With 0.4 bar vacuum, n = 425 rpm, control rod travel = (7.0 - 8,6 mm) Delivery = $(11.0 - 19.0 \text{ cm}^3/1000 \text{ strokes})$.

9. Leak test (vacuum test) of pneumatic idle boost box

Apply 0.8 bar vacuum to the pneumatic idle boost box via a three-way valve and a pressure gauge. Using the three-way valve, disconnect the vacuum supply from the pneumatic idle boost box and pressure gauge. Permissible pressure drop 30 mbar in 15 sec.

10. Start-of-delivery sensor setting

Start-of-delivery sensor setting and locking according to average port closing value for all cylinders $19.5 \pm 0.2 (0.3)^{\circ}$ camshaft angle after cylinder 1.

estoil-ISO 4113

Test Specifications Fuel Injection Pumps and Governors

WPP 001/4 MB 11,8 a 1

4. Edition

supersedes 5.84

Daimler-Benz company

OM 355 engine

154 kW (210 PS)

PE 6 P 100 A 720 RS 15

Komb.-Nr. 0 401 846 194

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from BDC)

RQ 250/1100 PA 111 DR

Rotational speed	Control rod travel	Fuel delivery	Difference cm ³ /	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm ³ /100 strokes	100 strokes	mm	cm ³ /100 strokes	mm
1	2	3	4	2	3	6
1090	12,0+0,1	10,0 - 10;2	0,3(0,6)			
250	7,9-8,1	1,7 - 2,3	0,3(0,5)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin	g of slider	Full-load	speed re	gulation		Idle spec	ed regula	ition		Torque o	control
rev/min	Control rod travel mm	Setting por	Control rod travel		critications Control rod travel mm 6	Setting prev/min	Control rod travel	Test spe rev/min 9	cifications Control rod travet mm 10	rev/min	Control rod travel mm 12
600	15,5-16,5	600	16,0	11,0 4,0 1300		þ	1	250	mind. 7, 0 5,9-6,1 125 = 2,0	1090 700 450	12,0-12,1 12,3-12,4 12,6-12,7

Torque-control travel on flyweight assembly dimension a =

Speed regulation: Al 135 - 1150 min⁻¹

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	delivery on control tever mp=40°C (104°F)	Control rod stop	Fuel deliv	ery characteristics	Starting	luel delivery
rev/min	cm ¹ /-1000 strokes 2	rev/min 3	rev/min	cm³/-1000 strokes 5	rev/min 6	cm ¹ /100 strokes 7
1090	100,0 - 102,0 (98,0 - 104,0)		700 450	96,0 - 99,0 (94,0 - 101,0) 90,0 - 94,0 (88,0 - 96,0)	100	150,0-170,0 (146,0-174,0)

Checking values in brackets

05,85

Geschäftsbereich KH. Kundendienst. Kfz. Ausrüstung. ±. 1980 by Robert Bosch GmbH, Postfach 50, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprimé en République Fédérale d'Allemagne par Robert Bosch GmbH.

WPP 001/4 MB 11,8 n 2. Edition

En

PE 6 P 110 A 720 RS 371 Komb.-Nr. 9 400 087 319

ostoil-ISO

RQV 300-1050 PA 747

supersedes 6.85

company:

Daimler-Benz

engine:

OM 355 A 210 kV

All test specifications are valid for Boach Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

2,8-2,9
Port closing at prestroke (2,75-2,95) mm (from BDC)

Port closing at pres		(2,/3-2,93)				
Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm ³ /100 strokes	100 strokes	mm	cm ³ /100 strokes	mm
1	2	3	4	2	3	6
1050	11 ,5+0,	1 16,1-16,3	0,4 (0,7)		
300	5,9-6,	1,6-2,1	0,35(0,4)		
						<u> </u>

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

deflection of control	peed rev/min Control rod travel mm	mm.	(b)	Intermediate Degree of deflection of control lever	rev/min	ced Control roo travel mm 6	•	Lower rated Degree of deflection of control lever 7	speed rev/min 8	Control rod travel mm 3	Stiding s rev/min 10	mm 11
max ca. 68	10,5	15,2-17, 1090-110 1160-119 0 - 1,	0	-	-	•		ca.14 380-440 3			260 450 800 1070	1,0-1,4 2,5-2,8 5,4-5,7 8,6

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ten		intermediate abead	high idle s	very characteristics (5a)	Starting Idle switchir	•	Torque- travel	control 5 Control rod travel
rev/min	cm ³ /1000 strokes	rev/min 49	tea/win	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	com .
1	2	3	4	5	ő	7	8	9
1050	161,0-163,0 (159,0-165,0	1090-1100*)	500	152,0-156,0 (149,0-159,0)	100	144,0-160,0 = 12,7-13,1 mm RW		-

Checking values in brackets

* 1 mm less control rod travel than col. 2

8.85

BOSCH

Goschäftsbereich KM. Kundendienst. Kfz-Ausrüstung.
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Testoil-ISO 41

WPP 001/4 SCA 9.0 b

2. Edition

PE 6 P 120 A 320 RS 7102 Komb.-Nr. 0 402 646 822

RQ 200/1000 PA 745

supersedes 4.85 Scania company

DS9 03 engine

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 015

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings 5,0-5,1

Port closing at prestroke

mm (from BDC)

		(4,95-5,15)				
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
700	12,0+0,1	16,3 - 16,5	0,6(0,9)			$3,3 \pm 0,1$
225	4,8-5,0	1,5 - 1,9	0,3(0,6)			(3,0 - 3,5)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin	g n° slider	Full-load	speed re	gulation		Idle spec	ed regula	ation		Torque	control
		Setting po	oint	Test spec	cifications	Setting p	oint	Test spe	cifications	ł	
rev/min	Control rod travel mm	rev/min 3	Control rod travel mm	rev/min 5	Control rod travel mm	rev/min	Control rod travel com	rev/min	Control rod travel mm 10	rev/min	Control rod travel mm
800	15,2-17,8	800	16,5	11,0	1045-1060	225	4,9	100	min., 6,3	-	-
VH =	max. 46°			4,0 1300	1185-12 1 5 0-1,0		l	l	4,8-5,0 345=2,0		

Torque-control travel on flyweight assembly dimension a

1045-1060 min⁻¹

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	delivery on control lever mp. 40°C (104°F)	Control rod stop	Fuel deliv	ery characteristics	Starting	luel delivery
rev/min 1	cm³/-1000 strokes 2	rev/min 3	rev/min	cm³/-1000 strokes 5	rev/min 6	cm³/100 strokes 7
LDA 700	0,9 bar 163,0 - 165,0 (160,0 - 168,0)	-	LDA 1000	0,9 bar 162,0 - 170,0 (160,0 - 172,0)	100	240,0 - 290,0 = 20,0 - 21,0 mm RW
			LDA 500	0 bar 141,0 - 145,0 (139,0 - 147,0)		·

Checking values in brackets

10.85

Geschäftsbereich KH. Kundendienst. Kfz-Ausrüstung < 1980 by Robert Bosch GmbH, Postfach 50, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprimé en République Fédérale d'Allemagne par Robert Bosch GmbH.

D. Adjustment Test for Manifold Pressure Compensator

SCA 9,0 b

- 2 -

Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
_	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PE 6 P RS 7102	0,90		12,0 - 12,1
+ RQ PA 745		0	11,3 - 11,4
		0,42	11,7 - 11,8
		0,38	11,5 - 11,7
	<u></u>		

Notes

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

SUPPLEMENTARY INFORMATION

- Checking and adjustment without a ROBO diaphragm
- For combination with letter index see VDT-J-400/116
- For sealing, see VDT-J-400/117
- Test specifications approved by Scania on 4.10.1984
- Start of fuel delivery-engine: 15° v. OT
- Firing sequence, engine : 1-5-3-6-2-4
- ** Due to smoothing of the sealing edge, the spring tension with a new delivery-valve holder must be adjusted 70 2,9 3,1 mm.

Testoil-ISO 4113

WPP 001/4 M3 5,7 e 1 6. Edition

PES 6 A 80 D 410 RS 2085 Y

Komb.-Nr. 0 400 846 185

ROV 300-1475 AB 533 DL

supersedes

10.84

company:

Daimler-Benz

engine:

OM 352

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings
2,15-2,25
Port closing at prestroke (2,10-2,30)

mm (from BDC)

mm 2	cm ³ /100 strokes 3	cm ³ / 100 strokes 4	travel mm 2	cm³/100 strokes 3	(forque-control valve) mm 6
8,2-8,3	4,6 - 4,7	0,2(0,35)			
5,9-7,1	1,3 - 1,6	0,2(0,3)			
2	3,2-8,3	3,2-8,3 4,6 - 4,7	cm ³ /100 strokes 100 strokes 4 3,2-8,3 4,6 - 4,7 0,2(0,35)	100 strokes mm 2 3,2-8,3 4,6 - 4,7 0,2(0,35)	100 strokes mm cm ³ /100 strokes 3 mm cm ³ /100 strokes 3 mm cm ³ /100 strokes 3

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed			Intermedic?	rated sp	eed	Lower rated	speed	•	Sliding s	leeve travel
Degree of deflection of control lever	rev/min Control rod travel mm 2	Control rod travel mm rev/min	(e)	Degree of deflection of control lever	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever	rev/min 8	Control rod travel mm 3	rev/min 10	mm 11
max.	1420	15,2-17	,8	-	-	•		100 300	min.8,2 6,9-7,1	660	0,8-1,1 3,4-3,8
ca.60	7,2 4,0 1700	1505-15 1560-15 0 - 1,	90				330-450			1060 1475	5,3-5,5 8,3
							3a				

Torque control travel a = 1,0

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		limitation intermediate speed			Starting idle switchir	O	Torque- travel	Control (5) Control rod travel
rev/min cm³/1000 strokes		rev/min 4a	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	
1	2	3	4	5	6	7	8	9
1450	46,0-47,0 (44,5- 48,5)	1505-1515*	800	45,5-47, 5 (44,0-49,0)		71,5-81,5 (68,5-84,5) = 12,9-13,3 nm RW	500 800	8,2-8,3 9,2-9,3 8,9-9,1 8,2-8,5

Checking values in brackets

* 1 mm less control rod travel than col. 2

7.85

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WPP 001/4 MB 5,7 m

8. Edition

estoil-ISO 4113

PES 6 A 80 C 410D	RS2085X RS2085X	EP/RSV EP/RSV	350-1425 350-1425	A2B1005D A2B1001D A2B1007D A2B1005D	(2) (3)	supersedes company engine:	12.84 12.84 Daimler- OM 352 - (1+4)	
All test specifications are valid				and Testers			(2) (3)	90 PS 100 PS

A. Fuel Injection Pump Settings

Port closing at prestroke

2.15 + 0.1

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)		
rev/min, 1	mm 2	cm³/100 strokes	cm ³ / 100 strokes 4	mm 2	cm³/100 strokes 3	mm 6		
1000	9	3,8 - 4,3	0,3					
	6 15	1,2 - 2,0 9,8 - 11,0						
200	9	1,8 - 2,6						

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

A2 C 350-1300 A2 B1005 D (1)

Upper Degree of deflection of control lever	flection travel control		Intermediate Degree of deflection of control lever	rated spe rev/min 5	Control rod travel mm	Tod Degree of deflection of control lever rev/min 9			3 Torque control Control rod travel rev/min mm 10 11	
loose	800 x	0,3-1,0 = 4,25	-	•	-	loose		6,9 min.17,5 6,8-7,0	500 700	8,0+0,1 9,4+0,1 9,2+0,2
ca.48 ⑤	7,0 4,0 1575	1340-1350 1400-1430 0,3-1,7						680=2,0	950	B,3+0,3

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-lo	ad stop	6 Rotational- speed limitat.		el delivery tracteristics	Starting Idle	fuel delivery	5a Idle stop	
Test oil temp rev/min 1	cm ³ /1000 strokes	Note: changed to rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	Control rod travel mm 9
(1) 1300	40,0 - 41,0 (38,5-42,5)	1340-1350 •	500	39,5 - 41,5 (37,5-43,5)	100	78,0 - 88,0 (75,0-91,0) = 14,5 - 14,9 mm RW	ŀ	•

Checking values in brackets

1 mm less control rod travel than col. 2

Upper Degree of deflection of control lever	rated speed rev/min 2	Control rod travel mm	Intermediate Degree of deflection of control lever	rated spe rev/min 5	Control rod travel mm	Degree of dellection of control lever	rev/min	Control rod travel mm	3 Tor rev/min 10	que control Control rod travel mm
ca.60	1425 1500 1560	16,0 11,5 6,8	without	auxi1	iary spri	ca.22 ng	350 200 350	7,5 19 - 21 7,2-7,8	1400 900	0 0 -0,2
⑤	1530 1600 1820	7,5-10,5 4,0-6,0 0,3-1,0	with au	ıxilia	ry spring		500 700 940	5,1-6,6 0,1-4,0 0 - 1	400	1,3-1,5

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-k	pad slop	6 Rotational- speed limitat		el delivery aracteristics	Starting Idle	fuel delivery	(5a) Idle stop		
Test oil tem rev/min t	p 40°C (104°F) cm³/1000 strokes 2	Note changed to rev/min 3	rev/min	cm ¹ /1000 strokes 5	rev/min 6	cm ¹ /1000 strokes 7	.,	Control rod travet mm 9	
(2) 1400	41,5 - 42,5 (40,0-44,0)	1455-1465	800	37,5 - 39,5 (36,0-41,0) 39,0-41,0 (37,5-42,5) 40,5-42,5 (39,0-44,0)	•	•	•	•	

Checking values in brackets

B. Governor Settings

Testoil/150 4113

* 1 mm less control rod travel than col 2

350-1425 A2 B1007D (3)

1 Upper Degree of deflection	aled speed	Control rod	Degree of Control rod D deflection travel			4 Lower rated speed Degree of Control rod deflection travel			3 Torque control Control rod Iravel	
of control lever	rev/min	mm	of control lever	rev/min	mm	of control lever	rev/min	mm 9	rev/min	mm 11
<u>'</u>	2	3	4	5	6	<u>'</u>	8	9		 ''
ca.60	1425	16,0	į			ca.22	350	7,2	1400	0
	1500 1560	11,4 6,6	without	auxil	liary spri	ng	200 350	19 - 21 6,9-7,5	950	0
⑤	1520 1650 1800	8,0-10,9 2,1-4,4 0,3-1,5	with au	xilia	ry spring		600 850	2,3-4,6 0 -1,5	450	0,9-1,1

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full to	oad slop	6 Rotational- speed limitat		el delivery aracteristics	Starting Idle	fuel delivery	5a) Idle stop		
fest oil tem rev/min 1	op 40°C (104°F) cm³/1000 strokes 2	Note changed to rev/min 3	rev/min cm³/1000 strokes 4 5		rev/min 6	rev/min cm³/1000 strokes 6 7		Control rod travel mm 9	
(3) 1400	45,5 - 46,5 (44,0-48,0)	1420-1430	1000 800 500	41,5 - 43,5 (40,0-45,0) 43,0-45,0 (41,5-46,5) 40,5-42,5 (39,0-44,0)	-	•	-	•	

Checking values in brackets

* 1 mm less control rod travel than col. 2

B. Governor Settings

.. A 2 B 1005 D (4)

	deflection of control mm mm rev/min lever 2 3			Intermediate rated speed Controllever deflection in degrees 7			- Lower rev/min 8	rated speed Control rod travel mm	Torque control Control rod travel mm 10 11	
ca. 51	1300 1360 1400	16,0 10,8 6,7	witho	out aux	ciliar	ca. 19 y spring	200	8,0 19-21 7,7-8,2	1280 800	0 0,8-1,0
ca. 49	1400	ca. 8,2 ca. 3,7 0,3-1,0	with	auxil [·]	iary s	pring	350 600 780	2,2-4,3 0-1,0		

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Fu			Hat. 3a Fuel delivery characteristics			Starting fuel delivery 5 4a Idle stop		
Test oil to rev/min 1	emp. 40°C (104°F) cm³/1000 strokes 2	Note: changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	Control rod travel mm
1290 (4)	40,0-41,0 (38,5-40,5)	1330-1340*	800 500	36,5-39,5 (35,0-41,0) 36,5-39,0 (35,0-40,5)	100	72,5-82,5	-	•

Checking values in brackets

TastolingO 4113

* 1 mm less control rod travel than col. 2

B. Governor Settings

Uppe Degree of deflection of control lever	r rated speed Control rod travel mm	Control rod travel mm rev/min 3	Intermed	diate rated	speed 6	Control- lever deflection in degrees 7	rated speed Control rod travel mm	rque control Control rod travel mm 11
		·						
20								

C. Settings for Fuel Injection Pump with Fitted Governor

	if-load stop emp. 40°≎ (104°F)	Note:	speed limitat. Characteristics			Starting fuel delivery 5 4a Idle stop Idle Control travel			
rev/min	cm ³ /1000 strokes 2	rev/min	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm³/1000 strokes 7	r e v/min 8_	mm 9	
				•					
			[]						

Checking values in brackets En

* 1 mm less control rod travel than col. 2

encience

WPP 001/4 MB 3,8 i

4. Edition

6 11	
350-1300 A1 B 752 D (2) _{company} D 350- 900 A0 B 764 (3) _{engine} 0 (11.75 Daimler-Benz OM 314 (80 PS-1) (68 PS-2)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

(53 PS-3)

A. Fuel Injection Pump Settings

Port closing at prestroke

2,15 + 01

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min 1	mm 2	cm ³ /100 strokes	cm ⁹ / 100 strokes 4	mm 2	cm³/100 strokes	mm 6
1000	9	5,6-6,0				
200	6	1,3-2,2				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

350-1400 A5 B740 (1)

	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min 3	Intermed	drate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm 9	3 To	rque control Control rod travel mm
ca.55	1400 1450 1480	16,0 9,4 3,4	witho	ut aux		ca.16 y sprinc	350 200 350	4,5 19-21 4,2-4,8	-	-
ca.53		ca.8,3 ca.3,0 0,3 - 1,0	with	auxil	iary s	pring	450 600	2,3-3,3 0 - 1		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2b Fu	II-load stop	6 Rotational- speed limitat		uel delivery paracteristics	Starting 1	uel delivery 5	(4a) idle stop	
1	emp 40°C (104°F) cm ³ /1000 strokes	Note. changed to) rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ^{\$} /1000 strokes	rev/min	Control rod travel mm
1380	56,5-58,5	1415-1425*			100	ca.8		
(in un	ase by ± 0,5 cm		1450	- 1470: 3,0 mm RW				

Checking values in brackets

* 1 mm less control rod travel than col 2

Testoil-ISO 4113

Upper Degree of deflection of control lever	rated speed rev/min 2	Control rod travel mm 3	Intermediate Degree of defiection of control tever	rated spe rev/min 5	Control rod travel mm	Degree of deflection of control lever	deflection travel of control			que control Control rod travel mm
ca. 73	1220 1280 1325 1320 1370 1450	16,0 10,2 6,6 ca. 7,6 ca. 3,0 0,3 - 1,0	-		iary spri ry spring	ca. 28 ng	200 350	5,3 19 -21 5,0-5,6 2,5-3,7 0 - 1	1280 500	0 0,6-0,8

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-l	oad stop	6 Rotational- speed limitat		el delivery aracteristics	Starting Idle	fuel delivery	(5a) Idie stop	
rev/min cm³/1000 strokes 2		Note changed to rev/min	rev/min	cm³/1000 strokes 5	rev/min cm³/1000 strokes		rev/min 8	Control rod travel mm 9
1280	48,5 - 50,5	1320-1330 *	1000 700	47,5 - 50,5 46,5 - 49,5	100	ca. 8		
			69					

Checking values in brackets

Testoil-ISO 4113

* 1 mm less control rod travel than col 2

B. Governor Settings

350-900 A O B 764 (3)

Upper Degree of deflection of control tever	raled speed rev/min 2	Control rod travel mm	Intermediate Degree of dellection of control lever		ed Control rod travel mm	Lower rated speed Degree of deflection of control lever rev/min 7 Lower rated speed Control travel mm 9				que control Control rod travel mm 1 1
ca. 33	750 820 870	5,1	without	auxil	iary spri	ca. 18 ng	350 220 350	5,3 19 -21 5,0-5,6	•	-
ca. 30	730 780 820	ca. 8,2 ca. 2,8 0,3 - 1,0	with au	xilian	y spring		370 420	2,5-4,0 0 - 1		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-l	oad stop	6 Rotational- speed limital.		el delivery aracteristics	Starting Idle	fuel delivery	5a Idle stop	
Test oil temp 40°C (104°F) rev/min cm³/1000 strokes 1 2		Note changed to rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	Control rod travel mm 9
880	47,5-49,5	895-905 * (VH ca. 34)	-	•	100	72,5 - 82,5	-	•
			930 -	945: 2,8 mm .				

Checking values in brackets

* 1 mm less control rod travel than col. 2

Festoil-ISO 4113

Test Specifications Fuel Injection Pumps and Governors

WPP 001/4 MB 8,7 g

Edition

(3)

(4)

(5)

EP/RSV 300-1050 A1B565D PE 6 A 90 D 410 RS 2124

(1)425-1165 A7B592D (2)

..350-1100 A1B 672 D (6) 425-1165 A1B630D ..A1C665 L (7) 575-1150 A1B665

. 700-1250 A1B665 (7) 300- 750 A4B666 All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers supersede9.76

company Daimler-Benz engine: OM 360

(1 - 140 PS) (6 - 172 PS) (2 - 135 PS) (7 - 175 PS)

(3 - 140 PS)

(4 - 170 PS)

A. Fuel Injection Pump Settings

Port closing at prestroke

 2.15 ± 0.1

mm (from BDC)

(5 - 112 PS)

Rotational speed	Control rod travel	Fuel delivery	Difference cm ³ /	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
ev/min	mm	cm ³ /100 strokes	100 strokes	mm	cm ³ /100 strokes	mm
l	2	3	4	2	3	6
1000	9	6,4 - 6,9	0,4			
	6 15	2,9 - 3,8 13,8 - 15,3				
200	6	0,2 - 1,0				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

300-1050 A1B565D (1)

Upper	rated speed		Intermediate	rated spe	ed	4 Lower	rated spe	ed	3 Torque control	
Degree of deflection of control fever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
ca. 52	1050	16,0 12,0			•	ca. 20	300	6,0	1030	0
	1080 1120	12,0 5,6	Without	auxıı	iary spri	19	200 300	19 - 21 5,7-6,3	700	0,1-0,3
⑤	1100 1150 1250	7,2-10,2 2,4-4,6 0,3-1,0	with au	xiliar	ry spring		400 550	2,6-4,3 0 - 1	400	0,4-0,6

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-los	d stop	6 Rotational- speed limitat.		el delivery tracteristics	Starting tdle	fuel delivery	5a Idle stop	
Test oil temp. 40°C (104°F) rev/min cm³/1000 strokes 1 2		Note: changed to rev/min	rev/min	cm³/1000 strokes	rev/min		rev/min	Control rod travel mm
1	2	3		5	6	7 mm RW	8	3
(1) 1030	69, 5-71, 5	1065-1075*	700	69,5 - 72,5	100	ca. 12	300	6,0

Checking values in brackets

* 1 mm less control rod travel than col. 2

1 Upper Degree of deflection of control lever	rated speed rev/min 2	Control rod travel mm	Intermediate Degree of deffection of control lever	rated spe rev/min 5	Control rod travel mm	Lowe Degree of deflection of control lever	rated spe rev/min 8	ced Control rod travel mm 9	3 for rev/min 10	que control Control rod travei mm
ca. 67	1175 1185 1200	12,0 7,0 2,2	without	auxi	liary spr	ca. 25 ng	425 200 425	5,6 19 - 21 5,3-5,9	1150 900	0 0,3-0,5
ca. 66 ⑤	1175 1210 1260	ca. 8,5 ca. 3,5 0,3-1,0	with au	ıxilia	ry spring		560	0 - 1	ì	0,7-0,9

The numbers denote the sequence of the lests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-le	oad stop	6 Rotational- speed limitat		el delivery srecteristics	Starting Idle	fuel delivery	(5a) Idio	e stop
Test oil tem rev/min 1	op 40°C (104°F) cm³/1000 strokes 2	Note changed to rev/min 3	rev/min	cm ³ /1 000 strokes _{<}	rev/min	cm³/1000 strokes 7 mm RW	rev/min 8	Control rod travel mm 9
(2) 1145	62,5 - 64,5	1180-1190*	800 500	60,0 - 63,0 58,0 - 61,0	100	ca. 12	425	5,6
			69					

Checking values in brackets

* 1 mm less control rod travel than col 2

B. Governor Settings

425-1165 A1B630D (3)

Degree of dellection of control lever	rev/min	Control rod travel mm	Intermediate Degree of deflection of control lever	rated spe rev/min 5	Control rod travel mm	4 Lower Degree of deflection of control lever	rated spe rev/min 8	ced Control rod travel mm 9		que control Control rod travel mm
ca. 58	1165 1200 1230	16,0 10,9 5,0	without	auxi	liary spr	ca.25 ng	425 200 425	6,0 19 - 21 5,7-6,3	1145	0 0,3-0,5
ca. 56	1165 1210 1260	ca. 8,5 ca. 3,5 0,3-1,5	with a	uxilia	ry spring		500 580	1,4-3,6 0 -1,5	1	0,9-1,1

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-to	oad stop	6 Rotational- speed limitat		el delivery aracteristics	Starting Idle	fuel delivery	5a) Idle stop		
Test oil temp 40°C (104°F) rev/min c:m³/1000 strokes 2		Note changed to rev/min cm ³ . 3 4 5			rev/min 6	cm³/1000 strokes 7 mm RW		Control rod travel mm 9	
(3) 1145	67,0 - 69,0	1180-1190 *	800 500	64,0 - 67,0 61,5 - 64,5	100	ca. 12	425	6,0	
			1200-	1215=3,5mmRW					

	$\overline{}$
1	<u>(</u>

1 Upper Degree of deflection of control lever	rated speed rev/min 2	Control rod travel	Intermediate Degree of deffection of control fever	1	ed Control rod travel mm 6	Degree of deflection of control lever	rated spe rev/min 8	ed Control rod travel mm 9	3 Tor rev/min 10	que control Control rod travel mm
ca. 55	1150 1180 1210	16,0 11,0 4,5	without	auxil	liary spri	ca. 28 ng	200	4,5	•	
ca. 54	1160 1190 1250	ca. 10 ca. 3,5 0,3-1,0	with au	xiliaı	ry spring		575 610 680	4,2-4,8 1,8-3,1 0 - 1		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-le	oad slop	6 Rotational- speed limitat		el delivery aracteristics	Starting Idle	fuel delivery	Sa) Idle stop	
Test oil temp 40°C (104°F) rev/min cm³/1000 strokes 1 2		Note changed to rev/min 3	rev/min	cm³/1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7 mm RW	rev/min 8	Control rod travel mm 9
(4) 1130	79,0 - 81,0	1165-1175*	-	-	100	ca. 12	575	4,5
			@ 1185-	1195=3,5mmRW				

Checking values in brackets

B. Governor Settings

300-750 A4B666 (5)

Upper Degree of deflection of control lever	rated speed rev/min 2	Control rod travel mm	Intermediate Degree of dellection of control lever	rated spe rev/min 5	Control rod travel mm	4 Lowe Degree of deflection of confrol lever 7	r rated spo rev/min 8	Control rod travel	que control Control rod travel mm 1 1
ca. 41	750 780 810	16,0 10,4 3,4	without	auxil	liary spri	ca. 19 ng	200	7,5 19 - 21	
ca. 40 ⑤	76ე 785 850	ca. 10 ca. 4,0 0,3-1,0	with au	xilia:	ry spring		300 400 480	7,2-7,8 1,0-2,7 0 - 1	

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-lo	oad stop	Rotational-speed timitat. 3a Fuel delivery characteristics			Starting Idle	fuel delivery	(5a) Idle stop	
Test oil temp 40°C (104°F) rev/min cm³/1000 strokes 1 2		Note. changed to rev/min 3	rev/min cm³/1000 strokes 4 5		rev/min cm³/1000 strokes 6 7 mm RW			Control rod travel mm 9
(5) 730	79,5 - 81,5	755-765	-	<u>-</u>	100	ca. 12	300	7,5

En

^{* 1} mm less control rod travel than col 2

(IA

Upper Degree of deflection of control lever	rated speed rev/min 2	Control rod travel mm	Intermediate Degree of deflection of control lever		Control rod travel mm	4 Lower Degree of deflection of control lever	rev/min	Control rod travet mm	3 Tor	cque control Control rod travel mm
ca. 63	1100 1160 1200	16,0 10,9 6,3	without	auxil	liary spri	ca. 28 ng	200	6,0 19 - 21	1080 450	0,5-0,7
ca. 60 ⑤	1100 1185 1260	ca. 9,8 ca. 3,5 0,3-1,0	with au	xiliaı	ry spring		350 450 620	5,7-6,3 3,0-4,3 0 - 1	430	0,3-0,

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-l	oad stop	6 Rotational- speed limitat		el delivery aracteristics			(5a) Idle stop	
Test oil ten rev/min 1	np 40°C (104°F) cm ¹/1000 strokes 2	Note changed to rev/min 3	rev/min 4	cm³/1000 strokes 5	tev/min	cm³/1000 strokes 7 mm RW	rev/min 8	Control rod travel mm 9
(6) 1080	78,0 - 80,0	1125-1135 *	800 500	80,5 - 83,5 75,0 - 78,0	100	ca 12	350	6,0
			(6) 1175-	1195 3,5 mm RW	Ì			

Checking values in brackets

* 1 mm less control rod travel than col 2

B. Governor Settings

A1C665 L 700-1250 A1B665 (7)

Upper Degree of deflection of control lever	raled speed rev/min 2	Control rod travel mm 3	Intermediate Degree of deflection of controll fever	· ·	ed Control rod travel mm 6	Degree of deflection of control lever	rated spe rev/min 8	ced Control rod travel mm	3 Tor rev/min 10	que control Control cod travel mm 11
ca. 60	1250 1280 1310	16,0 11,0 5,0	without	auxil	iary spri	ca. 33 ng	200	4,5 19 - 21		
ca. 59 ⑤	1260 1290 1340	ca. 9,4 ca. 3,5 0,3-1,0	with au	xiliar 	y spring		700 740 780	4,2-4,8 1,0-2,5 0 - 1		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-l	oad stop	6 Rotational- speed limitat.		el delivery practeristics	Starting Idle	fuel delivery	•	stop
Test oil ten rev/min 1	np 40°C (104°F) cm³/1000 strokes 2	Note changed to rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7		Control rod travel mm 9
(7) 1230	83,5 - 85,5 (81,5=86,5)	1265-1275 *	-	-	100	ca. 12 mm RW	700	4,5
			1290-	1300=3,5mmRW				

Checking values in brackets

• 1 mm less control rod travel than col 2

WPP 001/4 MB 8,7i

En

6. Edition

PE 6 A 90 D 410 RS 2124

Komb.-Nr. 0 400 676 117

RSV 700-1150 A 1 B 665 L

supersedes company

11. 84 Daimler- Benz

A 1 C 665 L

engine

OM 360 125 kW (170 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

(2,10-2,30) 2,15-2,25

mm (from BDC)

Rotational speed rev/min	Control rod travel	Fuel delivery cm 1/100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1150	10,6-10,7	8,8 - 8,9	0,3(0,45)			
700	5,6-5,8	1,8 - 2,4	0,2(0,4)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deliection of control lever	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min	Intermed	diate rated	speed	Control- lever deflection in degrees 7		rated speed Control rod travel mm	11 9 1	rque control Control rod travel mm 11
loose	900	0,3-1,0	-	•	•	ca.31	700	5,2	•	•
ca.53	9,6 4,0 1250	1160-1165 1184-1201 0,3-1,7					700 690-75	5,1-5,3 D = 2,0 **		

The humbers denote the sequence of the tests

** Set idle-speed auxiliary spring at 2,0 nm

control-rod travel. C. Settings for Fuel Injection Pump with Fitted Governor

	emp 40°C (104°F)	6 Rotational- speed limitat	11361	uel delivery naracteristics	Starting f	uel delivery 5	4a (d)	e stop Control rod travel
rev/min 1	cm ¹ /1000 strokes 2	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	mm 9
1150	87,5 - 88,5 (85,5 - 90,5)	1160-1165*	-	•	100	15,0-125, 12,0-128, - 14,6 - 15,0 mm	0 - 0)	•

Checking values in brackets

* 1 mm less control rod travel than col 2

7.85

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps and Governors

MPP 001/4 MWM 6,2 c

5. Edition

PES 6 A 90 D 320/3 RS2393

EP/RSV 300-1000 A7 B529DR 325-1500 A2 B529 DR supersedes 0.84 company: M N M TD 226-6

As from FD 823 the idle auxiliary-spring has been changed from 1 424 641 000 to ... 001. New values enclosed.

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2.15 + 0.1

mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	5,1 - 5,5	0,4		,	
	6	1,6 - 2,6	1			
200	9	1,9 - 2,9				
			<u> </u>		<u> </u>	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

RSV 300-1000

Upper	rated speed)	Intermediate rated speed			4 Lower rated speed			3 Torque control	
Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel	Degree of dellection of control lever	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
ca.68	1000 1050 1100	16,0 8,5 2,4	without	without auxiliary sprin			300 100 300	5,5 19 - 21 5,7-6,3	-	-
€a.67	1030 1070 1120	8,0-9,0 2,0-4,0 0,3-1,0	with a	uxilia	ry spring		450	0 - 1		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-to	ad stop	6 Rotational- speed limitat.	6 Rotational- speed limitat. 3a Fuel delivery characteristics			fuel delivery	Sa Idle stop	
Test oil temp. 40°C (104°F) rev/min cm³/1000 strokes 1 2		Note: changed to rev/min 3			rev/min cm³/1000 strokes		rev/min 8	Control rod travel mm
See pa	ge 3 - 4!							

Checking values in brackets

1 mm less control rod travel than col. 2

B. Governor Settings

RSV 325-1500..

MWM	6	2	C	-	2
1,1141,1	υ.	~	·	_	4

1 Uppe	r rated speed	rev/min	Intermediate rated speed			(4)	- Lower rated speed			rque control
Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min 3	4	5	6	Control- lever deflection in degrees 7	rev/min 8	Control rod travel mm	rev/min	Control rod travel mm
loose	800	0,3-0,7	-	-	-	ca. 20	325	7,0	-	-
	x =	3,5					325	7,4-7,6 $0 = 2,0$	1	
ca. 58	8,0 4,0 1700	1520-1530 1560-1590 0,3-1,4					450-81	V = 2,0		

C. Settings for Fuel Injection Pump with Fitted Governor

2b Fu	il-load stop	6 Rotational- speed limitat.		uel delivery naracteristics	Starting 1	ruel delivery 5		e stop
1	emp. 40°C (104°F) cm³/1000 strokes 2	Note: changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	1	Control rod travel mm 9
See p	age 3 - 4!	1520-1530*						

Checking values in brackets

* * 1 mm less control rod travel than col. 2

B. Governor Settings

(1) Uppe	er rated speed		Interm	ediate rate	d speed	(4)	Lowe	er rated speed	3 10	rque control [Control rod
Degree of deflection of control	travel mm	Control rod travel mm rev/min				Control- lever deflection in degrees	rev/min	travel	rev/min	travel mm
lever 1	2	3	4	5	6	7	8	9	10	11
									1	
		•								Į
										j
20										

C. Settings for Fuel Injection Pump with Fitted Governor

II-load stop	6 Rotational- speed limitat.	39 Fu	el delivery aracteristics	Starting f	ruel delivery 5		e stop Control rod
cm ³ /1000 strokes	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes	rev/min 6	cm³/1000 strokes 7	rev/min	travel mm 9
			•				
					·		
	mp. 40°C (104°F)	changed to)	mp. 40°C (104°F) speed limitat Note: changed to)	mp. 40°C (104°F) speed limitat. Characteristics Note: changed to)	speed limitat. Characteristics Idle Imp. 40°C (104°F) Note: changed to) rev/min rev/min cm³/1000 strokes rev/min	speed limitat characteristics Idle Imp. 40°C (104°F)	speed limitat. Characteristics IGIe speed limitat. Characteristics Note: changed to) rev/min rev/min cm³/1000 strokes rev/min cm³/1000 strokes

Checking values in brackets En

* 1 mm less control rod travel than col. 2

C: Settings for Fuel Injection Pump with Fitted Governor

engine po Full-load d Control-ro Test oil ter	elivery	Rotational-s limitation	peed	Fuel deix	rery characteristics	ldle switchir	1	Intermed rotationa Torque- travel	speed
rev/min	cm ³ /1000 strokes	rev/min		rev/min	cm ³ /1000 strokes	i '	cm ³ /1000 stroke:	1	mm
F 150	PS / 2500	min-1		4	5	6	7	8	
1250	PS / 2500 87,0 - 89,0	1270		800	84,0 - 87,0				
B 143 1250	PS / 2500 84,0 - 86,0	min ⁻¹ 1270		800	79,5 - 82,5				
F 148 1200	PS / 2400 86,0 - 88,0	min ⁻¹ 1220		800	84,0 - 87,0				
B 141 1200	PS / 2400 82,0 - 84,0	min-1 1220		800	79,5 - 82,5				
F 146 1150	PS / 2300 84,0 - 86,0	min-1 1170		800	84,0 - 87,0				
B 139 1150	PS / 2300 81,0 - 83,0	min-1 1170		800	79,5 - 82,5				
A 125 1140	PS / 2300 80,0 - 83,0	min-1		1150	74,0 - 76,0				
F 143 1100	PS / 2200 84,0 - 86,0	min ⁻¹ 1120		800	84,0 - 87,0				
B 137 1100	PS / 2200 81,0 - 83,0	min ⁻¹ 1120		800	79,5 - 82,5				
A 134 1090	PS / 2200 80,5 - 83,5	min ⁻¹		1100	74,0 - 76,0				
F 140 1050	PS / 2100 85,0 - 87,0	min-1 1070		800	84,0 - 87,0				
B 134 1050	PS / 2100 82,0 - 84,0	min ⁻¹ 1070		800	79,5 - 82,5				
A 122 1040	PS / 2100 80,5 - 83,5	min ⁻¹		1050	76,0 - 78,0				
F 135 1000	PS / 2000 86,0 - 88,0	min-1 1020		800	84,0 - 87,0	•			•
B 130 1000	PS / 2000 81,0 - 83,0	min ⁻¹ 1020		800	79,5 - 82,5				
A 119 990	PS / 2000 80,5 - 83,5	min ⁻¹		1000	73,0 - 75,0				
B 123 900	PS / 1800 82,0 - 84,0	min-1 910		750	78,5 - 81,5				
A 112 890	PS / 1800 89,5 - 92,5	min ⁻¹		900	75,0 - 77,0				
B 110 750	PS / 1500 86,0 - 88,0	min ⁻¹ 760		650	74,0 - 77,0	-	A 100 PS S	see page	4

A 100 BHP at 1500 min/1

740 87.5 - 90.5 ----- 750 86.0 - 88.0

The nameplate described on $\underline{\text{MWM 1.5}}$ a has recently been expanded - in columns n = rotational speed and Q = $\underline{\text{full-lod}}$ fuel delivery - to include two rotational speeds and two fuel deliveries, to enable more exact adjustment in the case of regulators with torque control.

Accordingly - in deviation from VDT-WPP 001/4, 1st addendum, Adjustment of the Regulator and the Pump - the following points will apply:

- (1) Adjustment of the control spring: remains.
- (2) Adjustment of the full-load fuel delivery: in accordance with nameplate, n = (1st rotational speed) and Q = (1st fuel delivery), or according to Sect. C, Columns 1-2.
- (3) Adjustment of the torque control: is adjusted until the control-rod travel is changed as indicated in (2), or according to the new nameplate, until the 2nd fuel delivery is obtained at the 2nd rotational speed; or accordance with Section C, Columns 4-5.
- (6) Start of speed regulation: is readjusted according to the nameplate n = (1st rotational speed + 20 min/1) or Column 3. However, for A-power output: readjust until the fuel delivery as shown in Columns 4-5 has been attained.

New pumps from the warehouse in Stuttgart do not have the spring retainer! For that reason, use the old spring retainers, or order new ones from MWM in accordance with the old nameplate!

WPP 001/4 MB 5.7 r 4

4. Edition

PES 6 A 90 D 410 RS 2293 RSV 350-750 AOB 741 L Komb.-Nr. 0 400 876 261

supersedes 11.82 Daimler-Benz company AOC 741 L

OM 352 A engine:

62,5 kW (85 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings 2,15-2,25 Port closing at prestroke (2,10-2,30) mm (from BDC)

Rotational speed		Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm³/100 strokes	cm ³ / 100 strokes	mm	cm ³ /100 strokes	mm
1	2	3	4	2	3	6
700	10,9+0,1	6,3 - 6,5	0,3(0,45)			
350	7,9-8,1	1,9 - 2,3	0,2(0,4)			
						i

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper	rated speed		Intermediate	rated spe	ed	4 Lowe	r rated spe	ed	3 Tor	que control
Degree of deflection of control lever	rev/min	travel	Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel	rev/min	Control rod travel
1	2	3	4	5	6	7	8	9	10	11
loose	800	0,3 - 1,0	-	-	•	ca. 19	350	8,0	-	•
!	×	= 2,0					350 370-	7,9 - 8,1 430=2,0		
63.31	9,9 4,0 820	750 - 755 788 - 801 0,3-1,7						**		

•• Set idle-speed auxiliary spring at 2 mm control-rod travel! The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-to	pad stop				Starting	fuel delivery	Sa) Idle stop	
Test oil temp. 40°C (104°F) rev/min cm³/1000 strokes 1 2		Note: changed to rev/min rev/m 3 4		rev/min cm³/1000 strokes 5		rev/min cm³/1000 strokes 6 7		Control rod travel mm 9
700	63,0-65,0 (61,0-67,0)	750 *	•	-	100	78,0-88,0 (75,0-91,0)	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

40

WPP 001/4 MB 5,7 q 5 4. Edition

En

PES 6 A 90 D 410 RS 2293

RSV 350-1400 A 0 B 788 DL

supersedr 6.83

Komb.-Nr. 0 400 876 258

H = 22.5 mm

company Daimler-Benz

engine OM 352 A

124 kW (168 PS) Unimog

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO

2,15-2,25 (2,10-2,30)

mm (from BDC)

		.,.0 =,00/				
Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre tensioning (torque-control valve)
rev/min	mm (2)	cm1/100 strokes	cm ¹ / 100 strokes	mm	cm /100 strokes	mm
1	2	3	4	2	3	6
1400	11,3+0,1	7,4 - 7,5	0,3(0,45)			
350	6,7-6,9	0,5 - 1,1	0,2(0,4)			7
				<u> </u>		

Adjust the fuel delivery from each outlet according to the values in \square

B. Governor Settings

Degree of deflection of control lever	Control rod travel mm	control rod travel mm rev/min	Interme	diale rated	speed 6	Control- lever dellection in degrees	Lowe rev/min	r rated speed Control rod travel mm	3 To	rque control Control rod travel min
loose	800 x =	0,3-1,0 5,0	-	-	-	19-21	350 100	6,3 min.19,0	1400 500	11,3-11,4 11,5-11,6
67-70 2 a	10,3 4,0 1600	1440-1450 1500-1530 0,3-1,7					350 530-5 700	6,7-6,9		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

9	ill-load stop	6 Rotational- speed limitat		uel delivery naracteristics	Starting I	uel delivery 5	4a Idle stop	
Test oil to rev/min 1	emp 40°C (104°F) cm/1000 strokes 2	Note changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm ^{1/} 1000 strokes 7	rev/min 8	Control rod travel mm
LDA 1400	0,7 bar 74,0-75,0 (72,0-77,0)	1440-1450*	LDA 500 LDA 500	0,7 bar 62,0-64,0 (60,0-66,0) 0 bar 54,0-56,0 (52,0-58,0)	100	78,0-88,0 (75,0-91,0 = 14,8 - 15,2 mm R) 	-

Checking values in brackets

BOSCH

^{* 1} mm less control rod travel than col 2

D. Adjustment Test for Manifold Pressure Compensator

Testatn =

rev/min decreasing pressure - in bar gauge pressure

MB 5,7 q 5

-2-

Testoil-ISO 4113

Pump/governor	Setting	Measurement	diminution , Control rod travel difference
	Gauge pressure = bar	Gauge:pressure = bar	mm (1) .
PES6A RS 2293	0		10,8 - 10,9
with AOB 788 DL		0,38	11,1 - 11,2
		0,70	11,5 - 11,6

Notes.

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

Testing the hydraulic start-locking device

Locking at Unlocking at

0,4 - 0,5 bar 0,15 - 0,25 bar

 \odot

Test Specifications Fuel Injection Pumps (1) and Governors

WPP 001/4 KHD 1 d

4. Edition

stoil-ISO 4113

PE 6 A 95 D 410 LS 2450 RQ..929,930,984D, 986D,987D
PE 8 A 95 D 410 LS 2451 RQV..898,931,973,974,975 company K H D
PE 10 A 95D610/4 LS 2452 976,983D,988D, 990D, engine: F 6 L 413F/FW
PE 12 A 95 D 610 LS 2453 996,999, 1006D, 1009, 1014,
1016,1020,1021,1026D 10
See page 2
All lest specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,0-2,1 mm (from 8DC)

Rotational speed Control rod travel		Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min 1	mm 2	cm ³ /100 strokes 3	cm³/ 100 strokes 4	mm 2	cm ³ /100 strokes 3	mm 6
1000	9	7,5 - 8,0	0,4			
	6	3,2 - 4,2				7
200	6	0,5 - 1,4				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	Upper rated speed			Intermediate	rated sp	eed	Lower rated speed			Stiding	sleeve travel
Degrae of deflection of control	rev/min Control rod travel	Control rod travel	(10)	Degree of deflection of control			Degree of deflection of control		Control rod travel	Sildings	1
lever		rev/min	(2a)	lever	rev/min	mm 4	lever	rev/min	mm (3	rev/min	mm
1	2	3		4	5	6	7	8	9	10	11
page	3-8										
							39				,

Torque control travel a =

mn

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roe Test oil ten	elivery 1 stop np. 40°C (104°F) 2	Retational-speed 2b limi@ion intermediate speed	Fuel delin	rery characteristics (Sa)	Starting fuel delivery 6 idle switching point		Torque- travel	control 5 Control rod
rev/min	cm ³ /1000 strokes .	rev/min 4e	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9
page	9 - 22							

Checking values in brackets

* 1 mm less control rod travel than col. 2

I. Contents	page
Section A	1
Instructions for testing	2
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- 6-cyl. with RQ, RQV, RSV	10-12
- 6-cylFW with RQV	12
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- 8-cylFW with RQV	. 15
- 10-cyl. with RQ, kQV	17-19
- 10-cylFW with RQV	19
- 12-cyl. with RQ, RQV	20-22
- 12-cylFW with RQV	22

2. Cam sequence and angular cam spacing

0-15-60-75-120-135-180-195-240-255-300-315-360°

3. Instructions for testing

to Section B:

Torque control dimension a = .. -section C, column 8 as required for trials no. for pre-adjustment. Final dimension to be set according to fuel-delivery characteristics in Section C, column 4-5. Further instructions for trials no. will follow on a separate information sheet.

to Section C:

If supplied, the control-rod stop with RQV governors must be set with a torque control of n=600/min.

RQ..

Checkin	g of slider	Full-load	speed re	gulation	ry	Idle spe	ed regula	ation	·	Torque	control
		Setting p		Test spe	cifications	Setting		Test sp	ecifications		
1	Control rod I travel		Control Log travel		Control rod	ļ	Control Lod travel		Control rod	1	Control rod travel
ev/min		rev/min	mm	rev/min	mm	rev/min		rev/min		rev/min	
1	2	3	4	5	6	7	8	9	10	111	12
300	1325 AB 9	29L , 9	30L								
650	15,6-16,0	650	16,0	1350	15,6-16,0	580	0	200	5,4-8,1	T -	-
		-		1400	5,0-12,2 0 - 7,0 0 - 1,5	}	l	300	4,4-6,5	1	
	<u> </u>		j	1440	0 - 7,0	1		400	1,2-3,5		
	Ī			1500	0 - 1,5		l	480	0		
	Í	1		1			l]		
	ĺ	1		Í			1				Ì
orque-c	ontrot travel	<u> </u>	<u> </u>	<u> </u>	1	L	<u> </u>	<u> </u>	<u> </u>	<u>!</u>	1 mm less con
	ght assembly dim		_	mm	Spe	eed regula	ation At				rod tra
300/	1250 AB 92	9L	,		·	,	,				
650	15,6-16,0	650	16,0	1270	15,6-16,0	580	0	200	6,3-8,1	_	-
				1300	10,0-14,8	Ì		300	4,2-6,2		
				1350	0 - 8,0		1 1	400	0,8-3,2		
		ļ		1420	0 - 1,5			480	0		
					1	[
,		1				}					
	ontrol travel			·			<u>. </u>	L 	 		1 mm less con
	ght assembly dim		_	ШÜ	Spe	ed regula	ation At				rod tra
300/	1250 AB984	DL, 98	7DL								
650	15,6-16,4	650	16,0	1290	13,0-15,4	570	0	200	6,5-8,1	750	15,8-16,0
		ì		1320	6,0-13,7			350	2,8-5,0		1
		ı		1340	0 - 10		1	410	0,6-3,2	900	15,3-15,6
		1		1420	0		i l	470	0		
						:					
		i									
orone-co	ontrol travel		0,3				L			<u> </u>	1 martines and
n flyweig	ght assembly dim		0,3	mm	Spe	ed regula	ation At				1 mm less cont rod tra
300/1	1250 AB986	DL									
650	15,6-16,4	650	16,0		11,0-15,0	660	0	200	6,1-8,2	800	15,6-15,
		1		1320	6,4-12,5 0 - 9,6			300	4,0-6,0 0 -2,4	950	15,0-15,
ľ				1340	0 - 9,6			410	0 -2,4	350	15,0-15,
1				1420	0			560	0		
1											
		<u></u>		,							
	ontrol travel		0,3						-· - · · · · · · · · · · · · · · · · · ·		1 mm less cont
ıı ııyweig	tht assembly dime	:::0100 3 =	~,~	mm	Spe	ed regula	ilion At				rod trav
			 -					i	·	į	
							- 1				
					İ		- 1		,		
							į	Ì			
aue-co	ntrol travel	<u> </u>								<u></u>	1 mm less contr
•	ht accambly dima				_	ad cooulai					· ····· icas conti

En

	•		_		_					· · · · · · · · · · · · · · · · · · ·
Upper rated s	speed	Control rod	Intermediate Degree of	rated sp	Control rod	Lower rated Degree of	speed	Control rod	Sliding s Torque	leeve travel
deflection of control		travel	deflection of control		travel	deflection of control		travel		
lever	rev/min 2	mm 3	lever	rev/min 5	mm 6	lever 7	rev/min 8	mm 9	rev/min	mm 11
300-13	L		L						,	
ca. 68	1350 1430 1520 1600	15,0-18,0 8,3-13,0 0 - 6,6 0		-	-	ca.12	300	7,5-9,0 4,9-7,1 2,7-4,2 0	250 800 1350	0,3-1,2 3,6-4,1 8,2
300-12	50 AB	898L							÷	
ca. 68	1300 1380 1450 1540	14,5-17,6 6,8-12,4 0 - 7,2 0	- .	-	-	ca.12	200 300 500 840	7,3-9,0 4,9-7,1 2,3-4,8 0	250 800 1290	0,3-1,3 3,4-4,2 8,2
300-119	O AB	898 L								
ca.68	1160 1220 1290 1370	0 - 7,3	-		-	ca.12	200 450 650 800	7,3-9,0 2,7-4,1 0,7-1,8 -	250 1160 -	0,3-1,3
300-107	5 AB 8	398 L		L		<u> </u>			!	
ca. 68	1160 1240 1320 1400		•	-	-	ca.12	200 300 500 710	7,5-9,0 5,1-7,0 1,1-2,4 0	700	0,3-1,2 4,0-4,5 8,3
300/725	-1075	AB 931L			• · · · · · · · · · · · · · · · · · · ·					
ca.68	1075 1100 1160 1220	15,0-17,3 11,0-15,4 0 - 7,4 0	ca.48	700 800 900 950	11,6-16,5 7,0-11,4 1,7- 4,5 0		140 300 450 700 830	6,8-8,2 4,7-6,1 3,6-4,0 1,7-3,9	200 400 650 900 1075	0,2-0,8 1,9-2,1 1,9-2,6 4,6-5,2 8,5
		i .							•	-

			-							
Upper rated : Degree of deflection	speed	Control rod	Intermediate Degree of deflection	rated spe	eed Control rod travel	Lower rated Degree of deflection	speed 	Control rod		eeve travel control trave
of control lever	rev/min	mm 3	of control lever	rev/min 5	mm 6	of control lever 7	rev/min	mm 9	rev/min	mm 11
<u> </u>	<u> </u>	AB 973DL				<u> </u>		travel M	laß a :	= 0,7 m
ca. 50	1180 1250	15,0-18,4 6,8-12,0	ca. 27	600 700	11,8-14,7	ca.13	150 250	8,4-11,5 5,7-8,8	200 600	0,5-1,2
	1300 1380	0 - 7,6		840 880	0 - 2,4		420 530	0 - 3	1050 1170	3,2-3,6 7,4-7,6 8,3
						•		-	650	0
!									400	0,7
300-132	25 AB	974 L		<u> </u>	<u> </u>		L	<u></u>	<u> </u>	<u> </u>
ca. 66	1325 1400	15,0-17,8 8,3-12,9	-	-	-	ca. 10	150 300	6,6-8,0 4,6-6,1	1325	8,3
	1480 1560	0 - 6,8					450 600	2,7-3,8 1,8-3,2	-	
							860	0		
300-98	5/1325	AB 975L	•						.	
ca. 68	1350 1420	12,0-16,0 4,4-11,0	ca. 61	900 1000	12,4-15,3 5,4-8,1	ca. 12	100 250	6,8-8,0 5,6-7,2	460 1300	2,0-2,9 8,5
	1460 1560	0 - 8,0		1100 1300	0,5-1,0 0,5-1,0		400 600	3,3-4,8 - 0,8-2,2	_	_
				1380	0		710	0		
							, i			
RQV 300	0-1325	AB976L	· · · · · · · · · · · · · · · · · · ·	L	<u> </u>	· L	<u></u>		<u>!</u>	<u> </u>
ca · 68	1350 1700	15,2-17,8 0 - 1	-	-	j	ca. 12		min. 8 5,4-5,6	300 600	1,2-1, 1,4-4,
ca. 59	1375	9,4-10,4 2,7-4,6						1,5-3,7	1350	8,3
	14/5	2,7-4,0					,		-	-
								!		
		L				<u> </u>	L	L	U	
								·		

•	Setting values for the governor RQV							KΠ	ט ז מ		- 0
	Upper rated s	speed		Intermediate	e rated sp		Lower rate	d speed		0,141	
	Degree of deflection of control		Control rod travel	Degree of deflection of control		Control rod travel	Degree of deflection of control		Control rod travel		sleeve travel control travel
	lever	rev/min	mm 3	lever	rev/min 5	mm 6	lever 7	rev/min	1	rev/min	
1	300-12	12 50 AB9	83DL, 990DL		19	l		8 ontrol	travel M	110 ава =	: 0,5 mm
	ca.66	1290 1370	15,0-18,0 7,5-12,7	-	-	-	ca. 12	100 300	7,6-8,6 5,2-6,6	1290	8,3
		1440 1530	0 - 7,7					600 850	2,0-3,2	1200	0 0,5-0,6
	300-107	75 AB9	88DL		<u>L:</u>	J	torque-c	ontrol	travel M	аß a =	0,5 mm
	ca. 68	1100 1190	15,0-18,0 4,1-10,4	-	-	-	ca. 12	1.00 300	6,2-8,0 4,4-6,2	1100	8,3
	ca. 66	1075	15,0-18,0					500 720	1,8-3,3	1075	0 0,5-0,6
		1140 1200 1280	0 - 8								0,5 0,0
	500 000		*******								<u> </u>
1	RQV 300)-1075 	AB988DL		<u> </u>		torque-c	ontrol 1	travel M	аβа = 	= 0,5 mm
	ca. 68	1160 1240 1320		•	-	-	ca. 12	200 300 500	7,5-9,0 5,1-7,0 1,1-2,4		0,3-1,2 4,0-4,5
		1400						710	0	1080 500	0 0,5-0,6
					:						
ļ	RQV 115	0 AB9	99L (V13274)		<u></u>		<u> </u>		L	
1		1100	14,6-20,5	, - 1	-	•	T -	-	-	1150	5,4
		1150 1200	8,3-13,0 0 - 4,5			·			-		_
į	RQV 300	-1000	AB1006DL (V13121D	<u> </u>		torque-c	ontrol	travel M	laß a :	= 0,5 mm
ſ	ca. 68	1100	14,0-17,6			_	ca.12	200	7,5-8,9	250	0,3-1,1
	ca. 00	1180 1250	6,2-12,0	_		_	Ca.12	300 450	4,5-7,0 1,0-2,3	600 1080	3,8-4,4 8,2
								650	0	1000 600	0 0,5-0,6
										3.0	.,,.

1250 0 500 0,5-0,6

Upper rated :	speed		Intermediate	e rated sp	eed	Lower rated	speed		Clidings	leeve travel
Degree of deflection	ĺ	Control rod travel	Degree of deflection of control		Control rod travel	Degree of deflection of control		Control rod travel		control travel
of control lever	rev/min	mm	lever	rev/min	mm	lever		mm	rev/min	mm
<u> </u>	2	3	4	5	6	7	8	9	10	11
RQV 30	0/525-	-750 AB1009	_ (V131	57)	·			<u> </u>		,
ca.68	760	15,0-18,4	ca. 52	525	14,0-20,0	ca.12	175	7,1-8,2	250	0,3-1,2
	800	4,2-11,0		600	7,9-12,2		300	4,0-6,3	400	1,9-2,1
	815	0 -8,0		650	3,0-6,2			3,6-4,0	600	3,7-4,5
	850	0		700	0		600	0	760	8,3
				Ì					-	-
	İ]			٠.		ļ
	<u></u>	<u>L</u>					<u> </u>			<u> </u>
RQV 30	0-800/	1325 AB1014	IL .							
ca.46	1330	18,0-21,6	ca.30	600	11,9-14,3	ca.10	100	9,4-12,2		0,8-1,4
	1420	9,2-14,8		720	6,6-9,0			4,1-7,9		4,0-4,4
	1500			840	0 -2,3		400		1020-	7,4-7,6
	1590) 0		880	0		510		1300 1330	7,8
				1					1330	7,0
						i			-	-
	<u> </u>	<u> </u>		<u> </u>		<u></u>				
RQV 3	00/800	-1150 AB101	6L (V12	264),	1021	(V13155)			
ca.66	1160	15,0-18,4	40	760	11 2 16 4	ca.12	200	6177	250	0,5-1,2
Ca.00	1200	8,4-13,8	ca.48	850	11,2-16,4 7,6-11,8	Ca.12	450	6,1-7,7 3,6-4,0	400-	
	1250	0 - 7,6		950	2,8-5,6		650	3,3-4,0	600	1,9-2,1
	1310			1030	0		900		1160	8,2
				:						
ROV	<u> </u> 300/65	0-900 AB102	OL (V12	 263)				<u> </u>		
		[•							
ca.66		15,0-18,4	ca.48		11,6-16,5	ca.12		6,8-8,2		0,3-1,0
	980 1020	0 - 7,5		700 790	6,0-9,8 0 -2,0		400	3,6-4,6	450-	1,9-2,1
	1020	U		810	0 -2,0		600 720	1,8-4,0 0	500 910	8,3
				010	Ů		,20	U	710	0,5
									-	-
				1 • •		1				
ROV :	! 300-12	50 AB1026DL		<u></u>	to	raue-ca	ntrol	travel Ma	R a =	
				•						
ca.68			-	-	-	ca.12		7,3-9,0		0,3-1,3
	1380						300	4,9-7,1	800 1290	3,8-4,2 8,2
	1450			į			500 840	2,3-4,8	1530	0,2
	1540	0					U7U	٠	1250	
	'						1		12501	n l

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			T			f. ———				
Jpper rated s	speed	1	Intermediate	rated spe		Lower rated	speed	la	<u> </u>	
Degree of deflection		Control rod travel	Degree of deflection		Control rod travel	Degree of deflection		Control rod travel	Torque-c	control trav
f control			of control	a de la familia		of control			rev/min	
197	rev/min 2	mm 3	lever 4	rev/min 5	mm 6	lever	rev/min 8	mm 9	rev/mm	mm 11
300-133	!	B 1084L		3		<u>L'.</u>	10	<u> </u>	1.0	<u> </u>
			I							l
ca.69	1325			ļ.,,,		_ca.23	300	6,0	1300	0
	1400		without	auxıı	iary sprin	1 9	100	19,0-21,0		"
	1450	1,0			1		300	5.7-6.3	350	1,2-1
	1370	10,4-12,3	Ţ		1	İ	450	0,8-2,9		
	1430		with au	kiliar	y spring		600	0 -1,0		
	1550	0,3-1,0			,,					Ì
300-10		B1002DL		<u> </u>	<u> </u>	<u> </u>	<u></u>		!	!
ca.72	A7		I			ca.23	300	6,0		
ca./2	1000 1030		Without	auxil	iary sprii		300		980	0
	1070		W I CHOUC	auxii	lary spiri	19	100	19 - 21		
			1		,]	300	5,7-6,3	400	0,8-1
	1050	7,0-10,2			ì		400	3,0-4,4		
	1100	2,0-4,4	with au	kiliar	y spring	•	550	0 - 1	1	j
	1200	0,3-1,0								
300-13	325 A8	B1002DL	!			l			L	L
ca.69	1325					ca.25	300	6,0		
	1380		without	auxil	iary spri	hg i	150	10 21	1300	0
	1420				1		150 300	19 - 21 5,7-6,3		Ī
		ca.10,5	with au	kiliar	y spring		500	1,7-3,8	450	0,8-1
	1520	ca. 9,5 0,3-1,0		[) Sp9		700	0 - 1		
			Ì							
	<u> </u>					<u> </u>				
	Γ					i				l
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				!						
	<u> </u>				ł	1				

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Test oil temp 40°C (104°F)	Rotational-speed limitation RQV Control-rod stop RQ		Fuel delivery characteristics Starting fuel delivery			fuel delivery
rev/min cm ³ /1000 strokes	stop RQ rev/min		rev/min	cm³/1000 strokes	rev/min 6	cm ³ /1000 strokes
F 6 L 413 F - 141kW/ 1325 91,5-93,5 RQ:		88,5- 87,5-		100	1	19-129
F 8 L 413 F - 188kW/ 1324 91,5-93,5 RQ: RQV	192 PS / 2650, 600 1000 :1340	/min 88,5- 87,5-		100	1	19-129
F 10 L 413 F - 236kW 1325 91,5-93,5 RQ:	/320PS / 2650 600 1000 :1340 800	/min 88,5- 87,5-		100	1	19-129
• • • •	/384PS / 2650 600 1000 :1340 800	/min 88,5- 87,5-		100	1	19-129

Caution: These changed values apply to governors without torque control

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C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Test oil temp 40°C (104°F)	Rotational-speed Imitation RQV Control-rod	Fuel delivery characteristics	Starting fuel delivery
rev/min cm³/1000 strokes	stop RQ rev/min 3	rev/min cm³/1000 strokes 4 5	rev/min cm³/1000 strokes 6 7
192 PS / 2650 min -	RQ 300/1325 AB 929	L	
1325 91,5-93,5		max. 84,5	100 119-129
192 PS / 2500 min -	RQ 300/1250 AB 987	DL	a = 0,2 mm
1250 91,5-93,5		92,5-94,5 82,5-88,5	100 119-129
186 PS / 2500 min -	RQ 300/1250 AB 929	L	•
1250 94,5-96,5	600 400	max. 84,5	100 119-129
176 PS / 2500 min -	RQ 300/1250 ABV 129	46D	a = 0,3 mm
1250 85,5-87,5	600 1000 700	83,5-86,5 86,5-89,5	100 119-129
168 PS / 2500 min -	RQ 300/1250 ABV 129	946 D	a = 0,3 mm
1250 75,5-77,5	600 1000 700	73,5-76,5 71,5-74,5	100 119-129
176 PS / 2300 min -	RQ 300/1150 ABV 122	242 D	a = 0,35 mm
1150 83,5-85,5		81,5-84,5 85,5-88,5	100 119-129
160 PS / 2150 min -	RQ 300/1075 ABV 122	243 D	a = 0,35 mm
1075 82,5-84,5	600 1000 700	80,5-83,5 83,5-86,5	100 119-129

C. Settings for Fuel Injection Pump with Fitted Governor

	Full-load delivery Test oil temp 40°C (104°F)		limitation	Control-rod		Fuel de	livery characte	ristics	Starting fuel delivery		
rev/	min cm ³ /10	000 strokes	stop rev/min 3	RQ		rev/min	cm ³ /1000 st	rokes	1	cm³/1000 strokes	
1.	141kW/1	192PS /	2650/min	- RQV	300	-1325	AB974L,	300-	950/132!	5 AB975L	
	1325 9	91,5-93,5	1365-13	75* 400	max	. 84,5	100		119-129	9	
2.	141kW/1	192PS /	2500/min	- RQV	300	-1250	AB13392D	, 300-	800/125	D ABV13776D a = 0,5 mm	
	1250 9	91,5-93,5	1290-130	00*1000 700	91,1 91,	0-94,0 5-94,5	100		119-12	9 770=4,5 (13776D)	
3.	137kW/1	186PS /	2500/min	- RQV	300	-1250	ABV12248				
	1250 9	90,5-92,5	1290-13	00* 400	max.	84,5	100		119-129	9	
4.	130kW/1	176PS /	2500/min	- RQV	300	-1250	AB983DL	(V1312	2D)	a = 0,5 mm	
	1250 8	35,5-87,5	1290-13	00*1000 400		5-86,5 5-82,5			119-129	9	
5.	107kW/1	145PS /	2400/min	- RQV	300	-1200	ABV 1225	9 D			
	1250 7	71,5-73,5	1240-129	50*1000 700		0-71,0 0-70,0			119-129	9	
6.	124kW/1	168PS /	2300/min	- RQV	300,	/800-1	150 AB10	21L (V	13155)		
	1150 8	34,5-86,5	1190-12	00*			100		119-12	9	
7.	124kW/1	168PS /	2300/min	- RQV	300	-1150	AB999L (V13227	4)		
	1150 8	35,5-87,5	1190-12	00*			100 1196		119-129 17 - 20	9	
8.	101kW/1	137PS /	1800/min	- RQV	300	-900 A	BV13156		· · · · · · · · ·	/	
	900 7	79,5-81,5	940-95	0* 400	max	. 82,5	100		119-12	9	
9.	101kW/1	137PS /	1800/min	- RQV	900	ABV 1	3273				

936 17-20

RQV RQV

790-800* 400 max.76,5

100

300/525-750 AB1009L (V13157) 750 ABV12507

100

119-129

119-129

80,5-82,5

78,5-80,5

10. 90kW/116PS / 1500/min

910

900

750

F 6 L 413 F - PE 6 A 95 .. 2450 with RSV-governors .. 2450 with RQV-governors F 6 L 413 FW-

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Test oil temp 40°C (104°F)		limitation Control-rod	Control-rod		livery characteristics	Starting	Starting fuel delivery	
rev/min	cm³/ 1000 strokes	stop rev/min	NO	rev/min	cm³/1000 strokes	rev/min	cm³/1000 strokes	
, 1	2	3		4	5	6	7	

1. 141kW/192PS / 2650/min -EP/RSV 300-1325 A 8 B 1084 L 119-129 max.82.5 100 1325 91,5-93,5 1365-1375* 400

33 2. 141kW/192PS / 2650/min -EP/RSV 300-1325 A 8 B 1002 DL 119-129 max.82,5 100 400 1325 91,5-93,5 1365-1375*

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F 6 L 413 FW

a = 0.5 mm6.1 121kW/165PS / 2500/min - RQV 300-1250 ABV 13925 D 2. 108kW/147PS / 2500/min

119-129 78,0-81,0 100 1. 1250 79,5-81,5 1290-1300* 003

71,0-74,0 100 119-129 800 2. 1250 74,5-76,5 1290-1300*

7.1. 115kW/156PS / 2300/min - RQV 300-1150 ABV 13926 D

a = 0.5 mm

2. 96kW/131PS / 2300/min

119-129 78,0-81,0 100 800 1. 1150 78,5-80,5 1190-1200*

2. 1150 68,5-70,5 1190-1200* 800 68,0-71,0 100 119-129

8.1. 101kW/137PS / 2150/min - RQV 300-1075 ABV 13927 D a = 0.5 mm

2150/min 2. 91kW/124PS

119-129 74,0-77,0 800 100 1. 1075 73,5-75,5 1115-1125*

2. 1075 67,5-69,5 1115-1125* 800 68,0-71,0 100 119-129

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Full-load delivery

Test oil temp 40°C (104°F)

C. Settings for Fuel Injection Pump with Fitted Governor

Rotational-speed limitation RQV

Starting fuel delivery Fuel delivery characteristics

Test oil temp 40°C (104°F)	Control-rod	Fuel Delivery Characteristics	Starting foot derivory
rev/min cm³/1000 strokes 1 2	stop RQ rev/min 3	rev/min cm ³ /1000 strokes 4 5	rev/min cm ³ /1000 strokes 6 7
1. <u>188kW/256PS / 265</u>	<u>0/min</u> - RQ 300/13	25 AB 929 L (V 11708)
1325 91,5-93,5	600 400 ma	x. 84,5 100 1	19-129
2. 188kW/256PS / 250	0/min - RQ 300/12	50 AB 987 DL (V 1339	a = 0,2 mm
1250 91,5-93,5		0,5-93,5 100 1 2,5-88,5	19-129
3. 183kW/248PS / 250	00/min - RQ 300/12	50 AB 929 L (V 12241)
1250 91,5-93,5	600 400 ma	x. 84,5 100 1	19-129
4. <u>173kW/235PS / 250</u>	00/min - RQ 300/12	50 ABV 12946 D	a = 0,3 mm
1250 85,5-87,5		3,5-86,5 100 1 ax. 84,5	19-129
5. 173kW/235PS / 230	00/min - RQ 300/11	50 ABV 12242 D	a = 0,35 m
1150 87,5-89,5	700 8	8,0-91,0 100 1 8,0-91,0 ax. 84,5	119-129
6. <u>157kW/213PS / 215</u>	50/min - RQ 300/10	75 ABV 12243 D	a = 0,3 mm
1075 82,5-84,5	700 8	1,5-84,5 100 1 4,5-87,5 ax. 84,5	119-129
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C. Settings for Fuel Injection Pump with Fitted Governor

1	delivery temp 40°C (104°F)	Rotational-spe limitation Control-rod	RQV		Fuel de	elivery	charac	terist	ics	Starti	ng fuel	deliver	у
rev/min	cm ³ /1000 strokes 2	stop rev/min 3	RQ	·	rev/min	сп 5	n³/1000	strok	es	rev/m	nin cr	า ³ /1000	strokes
1. 188	kW/256PS / 265	0/min	- RQV	300-			974 1014			247), 505),			12630) 14
132	5 91,5-93,5 13	865-1375*	400	max	.84,5		100	•	119-1	129	7		,5mmRW
2. 188	kW 256PS / 250	0/min	RQV	300 -	1250 800/1	250	990 (ABV	DL ((V 13 776 [3392)			0 D ,5 mm
125	0 91,5-93,5 12	90-1300*)-94,0 5-94,5		100	1	119-1	129			
3. 184	kW/248PS / 25	00/min	- RQV	300-	1250	AB	974 l	L (1	V 122	248)			
125	0 90,5-92,5 12	90-1300*	400	max.	.84,5		100	,.	119-1	129			
4. 173	kW/235PS / 250	0/min.	- RQV	300-	-1250	A۷	983 [DL	(V 1	13122	D)	a =	0,5 mm
115	0 85,5-86,5 12	90-1300*			5-86,5 5-89,5		100	•	119-1	129			
5. 173	kW/235PS / 23	800/min	- RQV	300-	1150	ABV	1377	77 [)			a =	0,5 mm
115	0 84,5-86,5 11	90-1200*			5-85,5 5-89,5		100	1	119-1	129			
6. 165	kW/224PS / 230	0/min	- RQV	300/	800-1	150	AB 1	1021	1 L ((1315	5)		
115	0 84,5-86,5 11	90-1200*	400	max.	.84,5		100		119-1	129			
7. 165	kW/225PS / 230	0/min	- RQV	1150	AB 9	99	L ((V 1	13274	1)			
115	0 85,5-87,5 11	60					100 1196	1	119-1 17-2				
8. 165	kW/225PS / 220	0/min	- RQV	300-	800/1	100	AB 9	973	DL	(V 1	3230	D)	a = 0,7 m
110	0 85,5-87,5 11	40-1150*			-87,0 -93,0		100	1	119-1	129	770	=4,5	mm RW
9. 132	kW/180PS / 215	0/min	- RQB	300-	1075	ABV	1394	44 [)		a	= 1	,2
107	5 71,5-73,5 11	15-1125*	1050 800		-73,0 -86,0		100	1	119-1	29			
10.134	kW/182PS / 180	0/min	- RQV	300/	650-9	00	ABV 1	1315	56				
900	79,5-81,5 9	10	400	max.	83,5		100	1	119-1	29			

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C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Test oil temp 40°C (104°F)		limitation Control-rod	1		ivery characteristics	Starting fuel delivery	
rev/min	cm ³ /1000 strokes	rev/min		rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes
1	2	3		4	5	6	7

11. <u>134kW/182PS / 1800/min</u> - RQV 900 ABV 13273 900 80,5-82,5 910 100 119-129 936 17-20 12. <u>114kW/155PS / 1500/min</u> - RQV 300/525-750 AB 1009 L (V 13157)

750 78,5-80,5 760 400 max. 82,5 100 119-129

13. 114kW/155PS / 1500/min - RQV 750 ABV 12507

750 78,5-80,5 760 100 119-129

F 8 L 413 FW

2. 1075 67,5-69,5

2500/min - RQV 300-1250 ABV 13925 D a = 0.5 mm16. 1. 162kW/220PS 2. 144kW/196PS / 2500/min 1290-1300* 800 78,0-81,0 100 119-129 1. 1250 79,5-81,5 2. 1250 74,5-76,5 1290-1300* 800 71,0-74,0 100 119-129 a = 0.5 mm2300/min - RQV 300-1150 ABV 13926 D 17. 1. 153kW/208PS 2. 129kW/175PS 2300/min 1190-1200* 800 78,0-81,0 100 119-129 1. 1150 78,5-80,5 1190-1200* 800 68,0-71,0 100 2. 1150 68,5-70,5 119-129 a = 0.5 mm2150/min - RQV 300-1075 ABV 13927 D 18. 1. 135kW/184PS / 2. 121kW/164PS / 2150/min 1. 1075 73,5-75,5 1115-1125* 800 74,0-77,0 100 119-129

1115-1200* 800 68,0-71,0 100

119-129

C. Settings for Fuel Injection Pump with Fitted Governor

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Full-load delivery Test oil temp 40°C (104°F)		Rotational-speed timitation RQV		Fuel deli	very characteristics	Starting fuel delivery	
		Control-rod stop	RQ	1 ,			
ev/min	cm ³ /1000 strokes	rev/min		rev/min	cm ¹ /1000 strokes	rev/min	cm ³ /1000 strokes
eviviii	2	3		4	5	6	7

1. <u>188kW/256PS / 2650/min</u> - EP/RSV 300-1325 A 8 B 1084 L 1325 91,5-93,5 1365-1375* 400 max. 84,5 100 119-129

2. <u>188kW/256PS / 2500/min</u> -EP/RSV 300-1325 A 8 B 1002 DL 1325 91,5-93,5 1365-1375* 400 max. 84,5 100 119-129

3. <u>147kW/200PS / 1900/min</u> - EP/RSV 300-1000 A 7 B 1002 DL 950 79,5-81,5 990-1000* 700 80,5-83,5 100 119-129 400 max. 84,5

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C: Settings for Fuel Injection Pump with Fitted Governor

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engine po Full-load di Test oil ten		Control-rod stop	Fuel deliv	very characteristics	ldle	fuel delivery	Intermediate rotational speed Torque-control travel	
rev/min	cm ³ /1000 strokes 2	rev/min	rev/min	cm ⁹ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	mm
1. 236	kW/320PS /	2650/min -	RQ 300)/1325 (V1	1709)	•	•	•
1325	91,5-93,5	600	400	max.84,5	100	119-129		
2. 236	kW/320PS /	2500/min -	RQ 300)/1250 AB984D)L		a =	0,2 mm
1250	91,5-93,5	600	1000 700	91,0-94,0 91,5-94,5	100	120-130		
3. 228	kW/310PS /	2500/min -	RQ 300	/1250 ABV122	244			
1250	89,5-91,5	600	400	max.84,5	100	119-129		
4. 217	kW/295PS /	2500/min -	RQ 300	/1250 AB986D	L (V13	159D)	a = 1	0,3 mm
1250	86,5-88,5	600	1000 700	84,5-87,5 87,5-90,5	100	119-129		
5. 216	kW/293PS /	2300/min -	RQ 300	/1150 ABV122	45D		a = (0,35 mm
1150	84,5-86,5	600	1000 700	82,5-85,5 86,5-89,5	100	119-129		
6. <u>197</u>	kW/267PS /	2150/min -	RQ 300	/1075 ABV122	46D		a = 0	,35 mm
1075	83,5-85,5	600	1000 700	81,5-84,5 84,5-87,5	100	119-129		
7.								
 8.			- 1541					
 9.			 -			:	·	

Checking values in brackets

*-1 mm less control rod travel than col-2

C: Settings for Fuel Injection Pump with Fitted Governor

engine power	T -			
engine power Full-load delivery Control-rod stop Test oil temp 40°C (104°F)	Rotational speed limitation	Fuel delivery characteristics	Starting fuel delivery lidle switching point	Intermediate rotational speed Torque-control travel
rev/min cm ³ /1000 strokes	rev/min	rev/min cm ³ /1000 strokes	rev/min cm ³ /1000 strokes	rev/min mm
1 2	3	4 5	6 7	8
1. 236kW/320PS /	2650/min -	RQV 300-1325 AB 300-800(1325		
1325 91,5-93,5	1365-1375*	400 max. 84,5	100 119-129	~
2. 228kW/310PS /	2550/min -	RQV 300-1275 ABV1	3664D	a = 0,5 mm
1275 90,5-92,5	1315-1325*	1000 90,5-92,5 700 91,0-94,0	100 119-129	
3. 236kW/320PS /	2500/min -	RQV 300-1250 AB10	26DL	a = 0,5 mm
1250 91,5-93,5	1290-1300*	1000 91,0-94,0 700 90,0-93,0	100 119-129	
4. 228kW/310PS /	2500/min -	RQV 300-1250 AB89	8L (V11962)	
1250 90,5-92,5	1290-1300*	400 max. 84,5	100 119-129	
5. 217kW/295PS /	2500/min -	RQV 300-1250 ABV1	3118D	a = 0,5 mm
1250 86,5-88,5	1290-1300*	1000 84,5-87,5 700 87,5-90,5	100 119-129	
6. <u>193kW/262PS /</u>	2500/min -	RQV 300/850-1250	ABV12294	
1250 79,5-81,5	1290-1300*	400 max. 82,5	100 119-129	
7. <u>215kW/294PS /</u>	2399/min -	RQV 300-1150 AB98	8DL (V13119D)	a = 0,5 mm
1150 84,5-86,5	1190-1200*	700 83,0-86,0 400 75,0-79,0	100 119-129	
8. <u>216kW/293 / 23</u>	300/min -	RQV 300/800-1150	AB 1016L (V12264)	
1150 84,5-86,5	1190-1200*	400 max. 82,5	100 119-129	L
9. 206kW/280PS /	2300/min -	RQV 300-1150 AB89		
1150 79,5-81,5	1190-1200*	400 max. 82,5	100 119-129	
10. <u>197kW/267PS</u> /	2150/min -	RQV 300-1075 AB 9	88DL (V13120D)	a = 0,5 mm
1075 83,5-85,5	1115-1125*	1000 81,5-84,5 700 84,5-87,5 400 max. 82,5	100 119-129	
Checking values in brackets			* 1 mm less C	ontrol rod travel than col

C: Settings	for Fuel Injection	Pump with	Fitted Governor

engine power Full-load delivery Control-rod stop Test oil temp 40°C (104°F) rev/min cm³/1000 strokes	Rotational speed limitation	Fuel deli	very characteristics	idle switchir	fuel delivery ng point cm ³ /1000 strokes	Intermediate rotational spectroque-contrational travel	
1 2	3	٩	5	6	7	8	7
11. 197kW/267PS /	2150/min -	RQV 30	00/750-1075	AB931	L (V12575)	•	
1075 83,5-85,5	1115-1125*	400	max. 82,5	100	119-129		mm
12. 184kW/250PS /	2000/min -	RQV 30	00-1000 AB1006	DL	(V13121D)	a = 0,5	mm
1000 80,5-82,5	1040-1050*	700	83,5-86,5	100	119-129		- 19
13. <u>184kW/250PS</u> /	2000/min -	RQV 30	00-1000 ABV135	50			
1000 80,5-82,5	1040-1050*	400	max. 82,5	100	119-129		
14. 168kW/228PS /	1800/min -	RQV 30	00/650-900 AB1	020L	(V12263)		
900 80,5-82,5	940-950*	400	max. 82,5	100	119-129		
15. 142kW/193PS /	1800/min -	RQV 30	00/525-750 AB9	98L	(V12262)		
750 78,5-80,5 F <u>10</u> L 413 FW	790-800*	400	max. 82,5	100	119-129		
16.1.202kw/275PS / 2.180kW/245PS /	2500/min - 2500/min	RQV 30	00-1250 ABV139	28D		a = 0,5	mm
1. 1250 79,5-81,5	1290-1300*	800	78,0-81,0	100	119-129		
2. 1250 74,5-76,5	1290-1300*	800	71,0-74,0	100	119-129		
17.1. 192kW/261PS 2. 161kW/219PS	/ 2300/min- / 2300/min	RQV 30	00-1150 ABV139	29D		a = 0,5	mm
1. 1150 78,5-80,5	1190-1200*	800	78,0-81,0	100	119-129		
2. 1150 68,5-70,5	1190-1200*	800	68,0-71,0	100	119-129		
18.1 168kW/228PS 161kW/219PS	/ 2150/min - / 2150/min	RQV 30	00-1075 ABV139	30D		a = 0,5	mm
1. 1075 73,5-75,5	1115-1125*	800	74,0-77,0	100	119-129		
2. 1075 67,5-69,5	1115-1125*	800	67,0-70,0	100	119-129		

Control-rod

stop

rev/min

600

600

600

a = 0,2 mm

a = 0.3 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Fuel delivery characteristics		Idle	fuel delivery	Intermed rotationa Torque-	speed
rev/min	cm ³ /1000 strokes	switchin rev/min	cm ³ /1000 strokes	travel rev/min	l ww
4	5	6	7	88	L
		,	1	•	•

RQ 300/1325 AB930L (V11709) 2650/min 1. 283kW/384PS /

119-129 max 84,5 100 400 1325 91,5-93,5 600

RQ 300/1250 AB984DL (V13407D) 2. 283kW/384PS / 2500/min

> 1000 91,5-94,5 700

119-129 91,0-94,0 100

82,5-88,5 400

3. 274kW/372PS / 2500/min -RQ 300/1250 AB930L (V12244)

max. 84,5 100 119-129 400 89,5-91,5 600 1250

1000

400

400

RQ 300/1250 AB986DL (V13159D) / 2500/min 4. 260kW/353PS

84,5-87,5

119-129 100

87,5-90,5 700 max. 82,5 400

RQ 300/1150 ABV 12245D / 2300/min 5. 259kW/352PS

a = 0,35 mm

1150 84,5-86,5

engine power

Full-load delivery

1250

1250

Test oil temp 40°C (104°F)

cm3/1000 strokes

91,5-93,5

86,5-88,5

1000 82,5-85,5 86,5-89,5 700

100 119-129

6. 236kW/320PS / 2150/min

RQ 300/1075 ABV12246D

max. 82,5

max. 82,5

a = 0.35 mm

1075 83,5-85,5 600

81,5-84,5 1000 700 84,5-87,5

100

119-129

Checking values in brackets

estoil-ISO 4113

C. Settings for Fuel Injection Pump with Fitted Governor

######################################														
1. 283kW/384PS / 2650/min - RQV 300-1325 AB898L (V12249) 2. 283kW/384PS / 2500/min - RQV 300-1250 AB1026DL (V13408D) a = 0,5 mm 1250 91,5-93,5 1290-1300*1000 91,0-94,0 100 119-129 3. 274kW/372PS / 2500/min - RQV 300-1250 AB898L 1250 89,5-91,5 1290-1300* 400 max.84,5 100 119-129 4. 260kW/353PS / 2500/min - RQV 300-1250 AB898L 1250 86,5-88,5 1290-1300*1000 84,5-87,5 100 119-129 4. 260kW/353PS / 2500/min - RQV 300-1250 ABV 13118D a = 0,5 mm 1250 86,5-88,5 1290-1300*1000 87,5-90,5 400 max. 82,5 5. 1 246kW/335PS / 2500/min - RQV 300-1250 ABV 13287D a = 0,55 mm 2. 147kW/200PS / 2500/min - RQV 300-1250 ABV 13287D a = 0,55 mm 2. 1250 82,5-84,5 1290-1300*1000 80,5-83,5 700 84,0-87,0 100 119-129 6. 243kW/330PS / 2500/min - RQV 300-1250 ABV 13621D a = 0,5 mm 1250 78,5-80,5 1290-1300*1000 77,0-80,0 100 119-129 7. 259kW/352PS / 2300/min - RQV 300-1250 ABV 13621D a = 0,5 mm 1150 84,5-86,5 1190-1200* 400 max. 82,5 100 119-129 8. 259kW/352PS / 2300/min - RQV 300-1150 AB898L, 1016L (V12264) 1150 84,5-86,5 1190-1200* 400 max. 82,5 100 119-129 9. 247kW/336/S / 2300/min - RQV 300-1150 AB988DL (V13118D) a = 0,5 mm 1150 83,5-85,5 1190-1200* 400 max. 82,5 100 119-129 10. 236kW/320PS / 2150/min - RQV 300-1150 AB988L (V13118D) a = 0,5 mm	Full-load Control-	delivery rod stop)4°F)			Fueld	leliver	y characte	eristics	Idle		ļ;	otationa forque	l speed
2 3 4 5 6 7 8	rev/min	cm ³ /1000	strokes	rev/min		rev/m	nn c	m ³ /1000 s	trokes	rev/min	cm ³ /1000 strokes	s r	ev/min	mm
1. 283kW/384PS / 2650/min - RQV 300-1325 AB898L (V12249) 1325 91,5-93,5 1365-1375* 400 max.84,5 100 119-129 2. 283kW/384PS / 2500/min - RQV 300-1250 AB1026DL (V13408D) a = 0,5 mm 1250 91,5-93,5 1290-1300*1000 91,0-94,0 100 119-129 3. 274kW/372PS / 2500/min - RQV 300-1250 AB898L 1250 89,5-91,5 1290-1300* 400 max.84,5 100 119-129 4. 260kW/353PS / 2500/min - RQV 300-1250 ABV 13118D a = 0,5 mm 1250 86,5-88,5 1290-1300*1000 84,5-87,5 100 119-129 5. 1 246kW/335PS / 2500/min - RQV 300-1250 ABV 13287D a = 0,55 mm 2. 147kW/200PS / 2500/min - RQV 300-1250 ABV 13287D a = 0,55 mm 2. 1250 82,5-84,5 1290-1300*1000 80,5-83,5 700 84,0-87,0 100 119-129 3. 1250 82,5-84,5 1290-1300*1000 80,5-83,5 700 84,0-87,0 100 119-129 3. 1250 78,5-80,5 1290-1300*1000 77,0-80,0 100 119-129 4. 243kW/330PS / 2500/min - RQV 300-1250 ABV 13621D a = 0,55 mm 1. 1250 82,5-84,5 1290-1300*1000 77,0-80,0 100 119-129 5. 243kW/330PS / 2500/min - RQV 300-1250 ABV 13621D a = 0,5 mm 1 1250 78,5-80,5 1290-1300*1000 77,0-80,0 100 119-129 5. 259kW/352PS / 2300/min - RQV 300-1150 AB898L, 1016L (V12264) 1150 84,5-86,5 1190-1200* 400 max. 82,5 100 119-129 5. 259kW/352PS / 2300/min - RQV 300-1150 AB988DL (V13118D) a = 0,5 mm 1150 84,5-86,5 1190-1200* 400 max. 82,5 100 119-129 5. 247kW/336/S / 2300/min - RQV 300-1150 AB988L (V13118D) a = 0,5 mm 1150 83,5-85,5 1190-1200* 400 max.82,5 100 119-129 5. 247kW/336/S / 2300/min - RQV 300-1150 AB988L (V13118D) a = 0,5 mm 1150 83,5-85,5 1190-1200* 400 max.82,5 100 119-129	,	2		3		4	5			6	7		8	
2. 283kW/384PS / 2500/min - RQV 300-1250 AB1026DL (V13408D) a = 0,5 mm 1250 91,5-93,5 1290-1300*1000 91,0-94,0 100 119-129 3. 274kW/372PS / 2500/min - RQV 300-1250 AB898L 1250 89,5-91,5 1290-1300* 400 max.84,5 100 119-129 4. 260kW/353PS / 2500/min - RQV 300-1250 ABV 13118D a = 0,5 mm 1250 86,5-88,5 1290-1300*1000 84,5-87,5 100 119-129 5.1 246kW/335PS / 2500/min - RQV 300-1250 ABV 1318D a = 0,5 mm 2. 147kW/200PS / 2500/min - RQV 300-1250 ABV 13287D a = 0,55 mm 3. 246kW/335PS / 2500/min - RQV 300-1250 ABV 13287D a = 0,55 mm 3. 246kW/335PS / 2500/min - RQV 300-1250 ABV 13287D a = 0,55 mm 3. 246kW/335PS / 2500/min - RQV 300-1250 ABV 13287D a = 0,55 mm 3. 246kW/335PS / 2500/min - RQV 300-1250 ABV 13287D a = 0,55 mm 3. 246kW/335PS / 2500/min - RQV 300-1250 ABV 13287D a = 0,55 mm 3. 259kW/352PS / 2500/min - RQV 300-1250 ABV 13621D a = 0,5 mm 3. 259kW/352PS / 2300/min - RQV 300-1150 AB988L, 1016L (V12264) 3. 259kW/352PS / 2300/min - RQV 300-1150 AB988DL (V13118D) a = 0,5 mm 3. 259kW/352PS / 2300/min - RQV 300-1150 AB988DL (V13118D) a = 0,5 mm 3. 259kW/352PS / 2300/min - RQV 300-1150 AB988DL (V13118D) a = 0,5 mm 3. 259kW/352PS / 2300/min - RQV 300-1150 AB988DL (V13118D) a = 0,5 mm 3. 259kW/352PS / 2300/min - RQV 300-1150 AB988DL (V13118D) a = 0,5 mm 3. 259kW/352PS / 2300/min - RQV 300-1150 AB988DL (V13118D) a = 0,5 mm 3. 26kW/336/S / 2300/min - RQV 300-1150 AB982L (V13118D) a = 0,5 mm 3. 26kW/336/S / 2300/min - RQV 300-1150 AB982L (V13118D) a = 0,5 mm 3. 26kW/336/S / 2300/min - RQV 300-1150 AB982L (V13118D) a = 0,5 mm 3. 26kW/336/S / 2300/min - RQV 300-1150 AB982L (V13118D) a = 0,5 mm 3. 26kW/320PS / 2150/min - RQV 300-1150 AB982L (V13118D) a = 0,5 mm 3. 26kW/320PS / 2150/min - RQV 300-7150 AB931L (V12575)	1.		84PS /	2650	O/min -	RQV	300	-1325	AB898L	(٧1	2249)	•		•
1250 91,5-93,5 1290-1300*1000 91,0-94,0 100 119-129 3. 274kW/372PS / 2500/min - RQV 300-1250 AB898L 1250 89,5-91,5 1290-1300* 400 max.84,5 100 119-129 4. 260kW/353PS / 2500/min - RQV 300-1250 ABV 13118D						-					119	-129)	
700 91,5-94,5 3. 274kW/372PS / 2500/min - RQV 300-1250 AB89BL 1250 89,5-91,5 1290-1300* 400 max.84,5 100 119-129 4. 260kW/353PS / 2500/min - RQV 300-1250 ABV 13118D	2.),5 mm
1250 89,5-91,5 1290-1300* 400 max.84,5 100 119-129 4. 260kW/353PS / 2500/min - RQV 300-1250 ABV 13118D a = 0,5 mm 1250 86,5-88,5 1290-1300*1000 84,5-87,5 100 119-129 5.1 246kW/335PS / 2500/min - RQV 300-1250 ABV 13287D a = 0,55 mm 1. 1250 82,5-84,5 1290-1300*1000 80,5-83,5 700 84,0-87,0 100 119-129 2. 1250 50,5-52,5 700 84,0-87,0 100 119-129 6. 243kW/330PS / 2500/min - RQV 300-1250 ABV 13621D a = 0,5 mm 1250 78,5-80,5 1290-1300*1000 77,0-80,0 100 119-129 7. 259kW/352PS / 2300/min - RQV 300-1150 AB898L, 1016L (V12264) 1150 84,5-86,5 1190-1200* 400 max. 82,5 100 119-129 8. 259kW/352PS / 2300/min - RQV 300-1150 AB898DL (V13118D) a = 0,5 mm 1150 84,5-86,5 1190-1200* 400 max. 82,5 100 119-129 9. 247kW/336/S / 2300/min - RQV 300-1150 AB988DL (V13118D) a = 0,5 mm 1150 83,5-85,5 1190-1200* 400 max. 82,5 100 119-129 10. 236kW/320PS / 2150/min - RQV 300-1150 AB993LL (V12575)		1250	91,5-93	, 5	1290-1	300*1					119	-129)	
4. \(\frac{260 \text{kW}/353PS / 2500/\text{min} - RQV \) \(300-1250 \) \(ABV \) \(13118D \) \(a = 0.5 \) \(mm \) \(1250 \) \(86.5-88.5 \) \(1290-1300*1000 \) \(84.5-87.5 \) \(100 \) \(87.5-90.5 \) \\ \(400 \) \(max. \) \(82.5 \) \(82.5 \) \(147 \text{kW}/200PS / 2500/\text{min} \) \(- RQV \) \(300-1250 \) \(ABV \) \(13287D \) \(a = 0.55 \) \(mm \) \(1250 \) \(82.5-84.5 \) \(1290-1300*1000 \) \(80.5-83.5 \) \(700 \) \(84.0-87.0 \) \(1250 \) \(50.5-52.5 \) \(1000 \) \(50.0-53.0 \) \(700 \) \(39.0-42.0 \) \(6. \) \(\frac{243 \text{kW}/330PS / 2500/\text{min} - RQV \) \(300-1250 \) \(ABV \) \(13621D \) \(a = 0.5 \) \(mm \) \(1250 \) \(78.5-80.5 \) \(1290-1300*1000 \) \(77.0-80.0 \) \(100 \) \(119-129 \) \(73.0-76.0 \) \(72.0 \) \(73.0-76.0 \) \(73.0-76.0 \) \(73.0-76.0 \) \(73.0 \) \(73.0-76.0 \) \(73.0 \	3.	274kW/3	72PS /	2500	O/min -	RQV	300	-1250	AB898L					
1250 86,5-88,5 1290-1300*1000 84,5-87,5 100 119-129 5.1 246kW/335PS / 2500/min - RQV 300-1250 ABV 13287D		1250	89,5-91	, 5	1290-1	300*	400	ma	x.84,5	100	119	-129)	
700 87,5-90,5 400 max. 82,5 5.1 246kW/335PS / 2500/min - RQV 300-1250 ABV 13287D	4.	260kW/3	53PS /	2500	0/min -	RQV	300	-1250	ABV 13	118D			a = (),5 mm
5.1 246kW/335PS / 2500/min - RQV 300-1250 ABV 13287D a = 0,55 mm 1. 1250 82,5-84,5 1290-1300*1000 80,5-83,5 700 84,0-87,0 100 50,0-53,0 100 119-129 2. 1250 50,5-52,5 1000 50,0-53,0 100 119-129 6. 243kW/330PS / 2500/min - RQV 300-1250 ABV 13621D a = 0,5 mm 1250 78,5-80,5 1290-1300*1000 77,0-80,0 100 119-129 7. 259kW/352PS / 2300/min - RQV 300-1150 AB898L, 1016L (V12264) 1150 84,5-86,5 1190-1200* 400 max. 82,5 100 119-129 8. 259kW/352PS / 2300/min - RQV 300-1150 AB988DL (V13118D) a = 0,5 mm 1150 84,5-86,5 1190-1200*1000 82,5-85,5 100 119-129 700 86,5-89,5 9. 247kW/336/S / 2300/min - RQV 300-1150 AB962L 1150 83,5-85,5 1190-1200* 400 max.82,5 100 119-129 10. 236kW/320PS / 2150/min - RQV 300/750-1075 AB931L (V12575)		1250	86,5-88	,5	1290-1	300*1					119	-129)	
2. \frac{147kW/200PS / 2500/min}{1. \frac{1250}{250}} \frac{82}{5} \frac{84}{5} \frac{1290-1300*1000}{1000} \frac{80}{5} \frac{583}{5} \\ 2. \frac{1250}{1250} \frac{50}{50} \frac{5-52}{5} \frac{1000}{700} \frac{50}{30} \frac{5-80}{30} \\ 2. \frac{1250}{1250} \frac{50}{50} \frac{5-52}{5} \frac{1000}{700} \frac{50}{39} \text{,0-53}{0} \\ 6. \frac{243kW/330PS}{2500/min} - \frac{7200}{700} \frac{77}{30} \frac{700}{73} \text{,0-76}{0} \\ 7. \frac{259kW/352PS}{259kW/352PS} \frac{2300/min}{2300/min} - \frac{700}{700} \frac{300-1150}{73} \text{ AB898L} \text{, 1016L (V12264)} \\ 1150 \frac{84}{5} \frac{5-86}{5} \frac{5}{1190-1200*} \frac{400}{400} \text{ max.} \frac{82}{5} \frac{5}{5} \frac{100}{119-129} \\ 8. \frac{259kW/352PS}{700} \frac{72300/min}{86} - \frac{700}{700} \frac{86}{5} \frac{5-89}{5} \frac{5}{700} \frac{86}{5} \frac{5-89}{5} \frac{5}{700} \frac{86}{5} \frac{5-89}{5} \frac{5}{700} \frac{86}{5} \frac{5-89}{5} \frac{5}{700} \frac{86}{5} \frac{5-89}{5} \frac{5}{700} \frac{86}{5} \frac{5-89}{5} \frac{5}{700} \frac{86}{5} \frac{5-89}{5} \frac{5}{700} \frac{86}{5} \frac{5-89}{5} \frac{5}{700} \frac{86}{5} \frac{5-89}{5} \frac{5}{700} \frac{86}{5} \frac{5-89}{5} \frac{5}{700} \frac{86}{5} \frac{5-89}{5} \frac{5}{700} \frac{86}{5} \frac{5-89}{5} \frac{5}{700} \frac{86}{5} \frac{5-89}{5} \frac{5}{700} \frac{86}{5} \frac{5-89}{5} \frac{5}{700} \frac{80}{5} \frac{119}{5} \frac{129}{5} \frac{119}{5} \frac{129}{5} \frac{1200}{5} \frac{110}{5} \frac{129}{5} \frac{119}{5} \frac{129}{5} \frac{119}{5} \frac{129}{5} \frac{1250}{min} - \frac{700}{700} \frac{70}{70} \frac{70}{70} \frac{70}{5} \frac{70}{							400	max.	82,	5				
2. 1250 50,5-52,5						RQV	300	-1250	ABV 13	287D			a = (0,55 mm
2. 1250 50,5-52,5	1.	1250	82.5-84	,5	1290-1	300*1	000	80	,5-83,	5				
2. 1250 50,5-52,5 1000 50,0-53,0 700 39,0-42,0 6. 243kW/330PS / 2500/min - RQV 300-1250 ABV 13621D a = 0,5 mm 1250 78,5-80,5 1290-1300*1000 77,0-80,0 100 119-129 700 73,0-76,0 7. 259kW/352PS / 2300/min - RQV 300-1150 AB898L, 1016L (V12264) 1150 84,5-86,5 1190-1200* 400 max. 82,5 100 119-129 8. 259kW/352PS / 2300/min - RQV 300-1150 AB988DL (V13118D) a = 0,5 mm 1150 84,5-86,5 1190-1200*1000 82,5-85,5 100 119-129 700 86,5-89,5 700 86,5-89,5 700 86,5-89,5 9. 247kW/336/S / 2300/min - RQV 300-1150 AB962L 1150 83,5-85,5 1190-1200* 400 max.82,5 100 119-129 10. 236kW/320PS / 2150/min - RQV 300/750-1075 AB931L (V12575)	•		-								119	-129	}	
1250 78,5-80,5 1290-1300*1000 77,0-80,0 100 119-129 7. 259kW/352PS / 2300/min - RQV 300-1150 AB898L, 1016L (V12264) 1150 84,5-86,5 1190-1200* 400 max. 82,5 100 119-129 8. 259kW/352PS / 2300/min - RQV 300-1150 AB988DL (V13118D) a = 0,5 mm 1150 84,5-86,5 1190-1200*1000 82,5-85,5 100 119-129 700 86,5-89,5 700 86,5-89,5 9. 247kW/336/S / 2300/min - RQV 300-1150 AB962L 1150 83,5-85,5 1190-1200* 400 max.82,5 100 119-129 10. 236kW/320PS / 2150/min - RQV 300/750-1075 AB931L (V12575)	2.	1250	50,5-52	, 5		1				U	,,,,			
700 73,0-76,0 7. 259kW/352PS / 2300/min - RQV 300-1150 AB898L, 1016L (V12264) 1150 84,5-86,5 1190-1200* 400 max. 82,5 100 119-129 8. 259kW/352PS / 2300/min - RQV 300-1150 AB988DL (V13118D) a = 0,5 mm 1150 84,5-86,5 1190-1200*1000 82,5-85,5 100 119-129 700 86,5-89,5 700 86,5-89,5 9. 247kW/336/S / 2300/min - RQV 300-1150 AB962L 1150 83,5-85,5 1190-1200* 400 max.82,5 100 119-129 10. 236kW/320PS / 2150/min - RQV 300/750-1075 AB931L (V12575)	6.	243kW/3	30PS /	250	O/min -	RQV	300	-1250	ABV 13	621D			a = (),5 mm
1150 84,5-86,5 1190-1200* 400 max. 82,5 100 119-129 8. 259kW/352PS / 2300/min - RQV 300-1150 AB988DL (V13118D) a = 0,5 mm 1150 84,5-86,5 1190-1200*1000 82,5-85,5 100 119-129 700 86,5-89,5 700 86,5-89,5 9. 247kW/336/S / 2300/min - RQV 300-1150 AB962L 1150 83,5-85,5 1190-1200* 400 max.82,5 100 119-129 10. 236kW/320PS / 2150/min - RQV 300/750-1075 AB931L (V12575)		1250	78,5-80	, 5	1290-1	300*1					119	-129)	
8. 259kW/352PS / 2300/min - RQV 300-1150 AB988DL (V13118D) a = 0,5 mm 1150 84,5-86,5 1190-1200*1000 82,5-85,5 100 119-129 700 86,5-89,5 700 86,5-89,5 9. 247kW/336/S / 2300/min - RQV 300-1150 AB962L 1150 83,5-85,5 1190-1200* 400 max.82,5 100 119-129 10. 236kW/320PS / 2150/min - RQV 300/750-1075 AB931L (V12575)	7.	259kW/3	52PS /	2300	O/min -	RQV	300	-1150	AB898L	, 101	6L (V12264)		
1150 84,5-86,5 1190-1200*1000 82,5-85,5 100 119-129 700 86,5-89,5 700 86,5-89,5 9. 247kW/336/S / 2300/min - RQV 300-1150 AB962L 1150 83,5-85,5 1190-1200* 400 max.82,5 100 119-129 10. 236kW/320PS / 2150/min - RQV 300/750-1075 AB931L (V12575)		1150	84,5-86	, 5	1190-1	200*	400	max.	82,	5 100	119	-129)	
700 86,5-89,5 700 86,5-89,5 9. 247kW/336/S / 2300/min - RQV 300-1150 AB962L 1150 83,5-85,5 1190-1200* 400 max.82,5 100 119-129 10. 236kW/320PS / 2150/min - RQV 300/750-1075 AB931L (V12575)	8.	259kW/3	52PS /	230	O/min -	RQV	300	-1150	AB988D	L (V1	3118D)		a = (),5 mm
700 86,5-89,5 9. 247kW/336/S / 2300/min - RQV 300-1150 AB962L 1150 83,5-85,5 1190-1200* 400 max.82,5 100 119-129 10. 236kW/320PS / 2150/min - RQV 300/750-1075 AB931L (V12575)		1150	84,5-86	, 5	1190-1	200*1					119	-129)	
1150 83,5-85,5 1190-1200* 400 max.82,5 100 119-129 10. 236kW/320PS / 2150/min - RQV 300/750-1075 AB931L (V12575)														
10. 236kW/320PS / 2150/min - RQV 300/750-1075 AB931L (V12575)	9.	247kW/3	36/S /	/ 230	O/min -	RQV	300	-1150	AB962L					
		1150	83,5-85	,5	1190-1	200*	400	ma	x.82,5	100	119	-129)	
	10.	236kW/3	20PS ,	/ 215	O/min -	RQV	300	/750-1	1075 AB	931L	(V12575)			
				,5	1190-1	200*	400	ma	x.82,5	100	119	-129)	

C. Settings for Fuel Injection Pump with Fitted Governor

1075 71,5-73,5 115-1125* 1050 70,5-72,5 100 119-129 13. 221kW/300PS / 2000/min - RQV 300-1000 AB 1006DL ABV13163D 100 80,5-82,5 1040-1050* 700 83,5-86,5 100 119-129 14. 200kW/272PS / 2000/min - RQV 300-1000 ABV13550 100 119-129 15. 202kW/275PS / 1800/min - RQV 300-900 ABV 13549 300/650-900 ABV12263 100 119-129 16. 171kW/232PS / 1500/min - RQV 300-750 AB998L (V12262) 750 80,5-82,5 790-800* 400 max. 82,5 100 119-129 17. 1-243kW/330PS / 2500/min - RQV 300-1250 ABV13928 D a = 0,5 m 2-216kW/294PS / 2500/min - RQV 300-1250 ABV13928 D a = 0,5 m 1 1250 79,5-81,5 1290-1300* 800 78,0-81,0 100 119-129 18. 1-230kW/313PS / 2300/min - RQV 300-1150 ABV13929D a = 0,5 m 2-193kW/262PS / 2300/min - RQV 300-1150 ABV13929D a = 0,5 m 1 1150 78,5-80,5 1190-1200* 800 78,0-81,0 100 119-129 19. 1-202kW/274PS / 2150/min - RQV 300-1075 ABV13930D a = 0,5 m 2-183kW/248PS / 2150/min - RQV 300-1075 ABV13930D a = 0,5 m	engine pov Full-load de Control-roo Test oil tem	elivery	Rotational-speed limitation	Fuel deli	very characteristics	idle	fuel delivery		Intermed rotations Torque- travel	spee	
11. 236kw/320PS / 2150/min - RQV 300-1075 AB98BDL (V1312DD) a = 0,5 m 1075 83,5-85,5 1115-1125* 1000 81,5-84,5 1000 119-129 12. 199kw/270PS / 2150/min - RQV 300-1075 ABV13945D a = 1,2 m 1075 71,5-73,5 115-1125* 1050 70,5-72,5 100 119-129 13. 221kw/300PS / 2000/min - RQV 300-1000 AB 10060L ABV13163D 700 83,5-86,5 100 119-129 14. 200kw/272PS / 2000/min - RQV 300-1000 ABV13550 100 119-129 15. 202kw/275PS / 1800/min - RQV 300-1000 ABV13550 100 119-129 16. 171kw/232PS / 1500/min - RQV 300-750 AB998L (V12262) 750 80,5-82,5 790-800* 400 max. 82,5 100 119-129 17. 1-243kw/330PS / 2500/min - RQV 300-750 AB998L (V12262) 750 80,5-87,5 790-800* 400 max. 82,5 100 119-129 18. 1250 79,5-81,5 1290-1300* 800 78,0-81,0 100 119-129 19. 1230kw/313PS / 2300/min - RQV 300-1150 ABV1392D a = 0,5 m 2-193kw/262PS / 2300/min - RQV 300-1150 ABV1399D a = 0,5 m 1. 1150 78,5-80,5 1190-1200* 800 78,0-81,0 100 119-129 2. 1150 68,5-70,5 1190-1200* 800 78,0-81,0 100 119-129 2. 1150 68,5-70,5 1190-1200* 800 78,0-81,0 100 119-129 2. 1150 68,5-70,5 1190-1200* 800 68,0-71,0 19. 1-202kw/274PS / 2150/min - RQV 300-1075 ABV13930D a = 0,5 m 2-183kw/248PS / 2150/min - RQV 300-1075 ABV13930D a = 0,5 m 2-183kw/248PS / 2150/min - RQV 300-1075 ABV13930D a = 0,5 m	ev/min			1	•		cm ³ /1000 s	trokes	1	mm	
ABVI31620	11 22					+	131200)		 	0.5	mm
700 84,5-87,5 400 max. 82,5 12. 199kW/270PS / 2150/min - RQV 300-1075 ABV13945D	11. 23	0KW/32UP3 /	2130/11111 - 1	nyv st			131200)		α -	0,5	
1075 71,5-73,5 115-1125* 1050 70,5-72,5 100 119-129 13. 221kW/300PS / 2000/min - RQV 300-1000 AB 1006DL ABV13163D 700 80,5-82,5 1040-1050* 700 83,5-86,5 100 119-129 14. 200kW/272PS / 2000/min - RQV 300-1000 ABV13550 100 119-129 15. 202kW/275PS / 1800/min - RQV 300-900 ABV 13549 300/650-900 ABV12263 900 80,5-82,5 940-950* 100 119-129 16. 171kW/232PS / 1500/min - RQV 300-750 AB998L (V12262) 750 80,5-82,5 790-800* 400 max. 82,5 100 119-129 17. 1-243kW/330PS / 2500/min - RQV 300-1250 ABV13928 D a = 0,5 m	1075	83,5-85,5	1115-1125*	70	00 84,5-87	,5	100	119-1	29		
800 83,0-86,0 13. 221kW/300PS / 2000/min - RQV 300-1000 AB 1006DL ABV13163D	12. 19	9kW/270PS /	2150/min - 1	RQV 30	00-1075 ABV139	945D			a =	1,2	mm
1000 80,5-82,5 1040-1050* 700 83,5-86,5 100 119-129 14. \(\frac{200\text{kW}/272PS}{2000\text{min}} \) - RQV 300-1000 ABV13550 1000 80,5-82,5 1040-1050* 100 119-129 15. \(\frac{202\text{kW}/275PS}{202\text{kW}/275PS} \) / \(\frac{1800\text{min}}{100000000000000000000000000000000000	1075	71,5-73,5	115-1125*				100	119-1	29		
1000 80,5-82,5 1040-1050* 700 83,5-86,5 100 119-129 14. 200kW/272PS / 2000/min - RQV 300-1000 ABV13550 1000 80,5-82,5 1040-1050* 100 119-129 15. 202kW/275PS / 1800/min - RQV 300-900 ABV 13549 300/650-900 ABV12263 900 80,5-82,5 940-950* 100 119-129 16. 171kW/232PS / 1500/min - RQV 300-750 AB998L (V12262) 750 80,5-82,5 790-800* 400 max. 82,5 100 119-129 17. 1-243kW/330PS / 2500/min 2-216kW/294PS / 2500/min 1. 1250 79,5-81,5 1290-1300* 800 78,0-81,0 100 119-129 2. 1250 74,5-76,5 1290-1300* 800 71,0-74,0 18. 1-230kW/313PS / 2300/min 2-150 ABV13929D a = 0,5 m 2-193kW/262PS / 2300/min - RQV 300-1150 ABV13929D a = 0,5 m 2-193kW/262PS / 2300/min - RQV 300-1150 ABV13929D a = 0,5 m 2-193kW/262PS / 2300/min - RQV 300-1150 ABV13929D a = 0,5 m 2-183kW/262PS / 2150/min - RQV 300-1075 ABV13930D a = 0,5 m 2-183kW/248PS / 2150/min - RQV 300-1075 ABV13930D a = 0,5 m 2-183kW/248PS / 2150/min - RQV 300-1075 ABV13930D a = 0,5 m 2-183kW/248PS / 2150/min - RQV 300-1075 ABV13930D a = 0,5 m 2-183kW/248PS / 2150/min - RQV 300-1075 ABV13930D a = 0,5 m 2-183kW/248PS / 2150/min - RQV 300-1075 ABV13930D a = 0,5 m 2-183kW/248PS / 2150/min - RQV 300-1075 ABV13930D a = 0,5 m 2-183kW/248PS / 2150/min - RQV 300-1075 ABV13930D a = 0,5 m 2-183kW/248PS / 2150/min - RQV 300-1075 ABV13930D a = 0,5 m 2-183kW/248PS / 2150/min - RQV 300-1075 ABV13930D a = 0,5 m 2-183kW/248PS / 2150/min - RQV 300-1075 ABV13930D a = 0,5 m 2-183kW/248PS / 2150/min - RQV 300-1075 ABV13930D a = 0,5 m 2-183kW/248PS / 2150/min - RQV 300-1075 ABV13930D a = 0,5 m 2-183kW/248PS / 2150/min - RQV 300-1075 ABV13930D a = 0,5 m 2-183kW/248PS / 2150/min - RQV 300-1075 ABV13930D a = 0,5 m 2-183kW/248PS / 2150/min - RQV 300-1075 ABV13930D a = 0,5 m 2-183kW/248PS / 2150/min - RQV 300-1075 ABV13930D	13. 22	1kW/300PS /	2000/min - I	RQV 30			(V1312	1D)	a = 3	0,5	mm
1000 80,5-82,5 1040-1050* 100 119-129 15. 202kW/275PS / 1800/min - RQV 300-900 ABV 13549 300/650-900 ABV12263 900 80,5-82,5 940-950* 100 119-129 16. 171kW/232PS / 1500/min - RQV 300-750 AB998L (V12262) 750 80,5-82,5 790-800* 400 max. 82,5 100 119-129 17. 1-243kW/330PS / 2500/min -RQV 300-1250 ABV13928 D a = 0,5 m 1. 1250 79,5-81,5 1290-1300* 800 78,0-81,0 100 119-129 2. 1250 74,5-76,5 1290-1300* 800 71,0-74,0 18. 1-230kW/313PS / 2300/min -RQV 300-1150 ABV13929D a = 0,5 m 1. 1150 78,5-80,5 1190-1200* 800 78,0-81,0 100 119-129 2. 1150 68,5-70,5 1190-1200* 800 68,0-71,0 19. 1-202kW/274PS / 2150/min -RQV 300-1075 ABV13930D a = 0,5 m 1. 1075 73,5-75,5 1115-1125* 800 74,0-77,0 100 119-129	1000	80,5-82,5	1040-1050*	70			100	119-1	29		
15. 202kW/275PS / 1800/min - RQV 300-900 ABV 13549 300/650-900 ABV12263 900 80,5-82,5 940-950* 100 119-129 16. 171kW/232PS / 1500/min - RQV 300-750 AB998L (V12262) 750 80,5-82,5 790-800* 400 max. 82,5 100 119-129 F12 L 413 FW 17. 1-243kW/330PS / 2500/min - RQV 300-1250 ABV13928 D a = 0,5 m 1. 1250 79,5-81,5 1290-1300* 800 78,0-81,0 100 119-129 2. 1250 74,5-76,5 1290-1300* 800 71,0-74,0 18. 1-230kW/313PS / 2300/min - RQV 300-1150 ABV13929D a = 0,5 m 1. 1150 78,5-80,5 1190-1200* 800 78,0-81,0 100 119-129 2. 1150 68,5-70,5 1190-1200* 800 78,0-81,0 100 119-129 2. 1150 68,5-70,5 1190-1200* 800 68,0-71,0 19. 1-202kW/274PS / 2150/min - RQV 300-1075 ABV13930D a = 0,5 m 1. 1075 73,5-75,5 1115-1125* 800 74,0-77,0 100 119-129	14. 20	0kW/272PS /	2000/min - 1	RQV 30	0-1000 ABV135	550					
300/650-900 ABV12263 900 80,5-82,5 940-950* 100 119-129 16. 171kW/232PS / 1500/min - RQV 300-750 AB998L (V12262) 750 80,5-82,5 790-800* 400 max. 82,5 100 119-129 F12 L 413 FW 17. 1-243kW/330PS / 2500/min 2-RQV 300-1250 ABV13928 D a = 0,5 m 1. 1250 79,5-81,5 1290-1300* 800 78,0-81,0 100 119-129 2. 1250 74,5-76,5 1290-1300* 800 71,0-74,0 18. 1-230kW/313PS / 2300/min 2-RQV 300-1150 ABV13929D a = 0,5 m 1. 1150 78,5-80,5 1190-1200* 800 78,0-81,0 100 119-129 2. 1150 68,5-70,5 1190-1200* 800 68,0-71,0 19. 1-202kW/274PS / 2150/min 2-RQV 300-1075 ABV13930D a = 0,5 m 1. 1075 73,5-75,5 1115-1125* 800 74,0-77,0 100 119-129	1000	80,5-82,5	1040-1050*				100	119-1	29		
16. 171kW/232PS / 1500/min - RQV 300-750 AB998L (V12262) 750 80,5-82,5 790-800* 400 max. 82,5 100 119-129 F12 L 413 FW 17. 1-243kW/330PS / 2500/min - RQV 300-1250 ABV13928 D a = 0,5 m 1. 1250 79,5-81,5 1290-1300* 800 78,0-81,0 100 119-129 2. 1250 74,5-76,5 1290-1300* 800 71,0-74,0 18. 1-230kW/313PS / 2300/min - RQV 300-1150 ABV13929D a = 0,5 m 1. 1150 78,5-80,5 1190-1200* 800 78,0-81,0 100 119-129 2. 1150 68,5-70,5 1190-1200* 800 78,0-81,0 100 119-129 2. 1150 68,5-70,5 1190-1200* 800 68,0-71,0 19. 1-202kW/274PS / 2150/min - RQV 300-1075 ABV13930D a = 0,5 m 1. 1075 73,5-75,5 1115-1125* 800 74,0-77,0 100 119-129	15. <u>20</u>	2kW/275PS /	1800/min - I					· <u></u>			
750 80,5-82,5 790-800* 400 max. 82,5 100 119-129 F12 L 413 FW 17. 1-243kW/330PS / 2500/min 2-RQV 300-1250 ABV13928 D	900	80,5-82,5	940-950*				100	119-1	29		
750 80,5-82,5 790-800* 400 max. 82,5 100 119-129 F12 L 413 FW 17. 1-243kW/330PS / 2500/min 2-RQV 300-1250 ABV13928 D	16. 17	1kW/232PS /	1500/min - F	RQV 30	0-750 AB998L		(V12262	2)			
17. 1-243kW/330PS / 2500/min			790-800*	40	0 max. 82,	,5	100	119-1	29		
$\frac{2-216kW/294PS}{1.250} / \frac{2500/min}{2-9.5-81.5} / \frac{2500/min}{1290-1300*} \times 800 $	F12	L 413 FW									
1. 1250 79,5-81,5 1290-1300* 800 78,0-81,0 100 119-129 2. 1250 74,5-76,5 1290-1300* 800 71,0-74,0 18. 1-230kW/313PS / 2300/min -RQV 300-1150 ABV13929D			/ 2500/min / 2500/min -	RQV 30	0-1250 ABV139	928 D			a = (),5 (nm
18. $\frac{1-230 \text{kW}/313 \text{PS}}{2-193 \text{kW}/262 \text{PS}}$ / $\frac{2300/\text{min}}{2300/\text{min}}$ -RQV 300-1150 ABV13929D a = 0,5 m 1. $\frac{1150}{1150}$ 78,5-80,5 $\frac{1190-1200}{1190-1200}$ 800 78,0-81,0 100 119-129 2. $\frac{1150}{202}$ 68,5-70,5 $\frac{1190-1200}{1190-1200}$ 800 68,0-71,0 a = 0,5 m 1. $\frac{1-202 \text{kW}/274 \text{PS}}{2-183 \text{kW}/248 \text{PS}}$ / $\frac{2150/\text{min}}{2150/\text{min}}$ -RQV 300-1075 ABV13930D a = 0,5 m 1. $\frac{1075}{202}$ 73,5-75,5 $\frac{1115-1125}{2020}$ 800 74,0-77,0 100 119-129					0 78,0-81,	,0	100	119-1	29		
$\frac{2-193 \text{kW}/262 \text{PS}}{1.1150} = \frac{2300/\text{min}}{1.1150} = \frac{2300/\text{min}}{1.1150} = \frac{2300/\text{min}}{1.1150} = \frac{2300/\text{min}}{1.1150} = \frac{2300/\text{min}}{1.1150} = \frac{1-202 \text{kW}/274 \text{PS}}{2.1150} = \frac{2150/\text{min}}{2.1150} = \frac{2150/\text{min}}{1.1150} =$	2. 12	50 74,5-76,5	1290-1300*	80	0 71,0-74,	,0					
2. 1150 68,5-70,5 1190-1200* 800 68,0-71,0 19. 1-202kW/274PS / 2150/min -RQV 300-1075 ABV13930D				RQV 30	0-1150 ABV139)29D			a = (),5 1	nm
19. $\frac{1-202 \text{kW}/274 \text{PS}}{2-183 \text{KW}/248 \text{PS}}$ / $\frac{2150/\text{min}}{2150/\text{min}}$ -RQV 300-1075 ABV13930D	1. 11	78,5-80,5	1190-1200*	80	0 78,0-81,	,0	100	119-1	29		
$\frac{2-183KW/248PS}{73,5-75,5} = \frac{2150}{min} - \frac{1075}{73,5-75,5} c{1075}{min} - \frac{1075}$	2. 119	50 68,5-70,5	1190-1200*	80	0 68,0-71,	,0					
• •				RQV 30	0-1075 ABV139	30D	 		a = 0),5 r	nm
2 107E 67 E 60 E 111E 112E+ 000 CO 0 74 O	1. 10	75 73,5-75,5	1115-1125*	80	0 74,0-77,	.0	100	119-1	29		
2. 1075 67,5-69,5 1115-1125* 800 68,0-71,0	2. 10	75 67,5-69,5	1115-1125*	80	0 68,0-71,	0					

WPP 001/40MB 7,4 a 5. Edition

40

Festoil-ISO 4113

PES G A 90 C 410 RS 2340 .. D ..

RQV 250-1300 AB 803 D RQV 325-1050 AB 923 D ROV 250-1300 AB 944 D supersedes 6.75

company: OM Brescia CP 3

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,15 + 0,1

mm (from BDC)

Rotational speed ray/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	5,8 - 6,3	0,4			
	6	2,5 - 3,4	7			
	12	10,2 - 11,1				
200	9	3,2 - 4,1				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

RQV.. 803 D

Upper rated : Degree of deflection of control lever	rev/min Control rod travel	travel	Intermediate Degree of deflection of control lever	rated sp rev/min 5	Control rod travel mm 4	Lower rated Degree of deflection of control lever 7	speed rev/min 8	Control rod travel	Sliding s	mm
ca. 66	1340 1450 1550 1680	15,0-17,4 8,2-12,8 0,5- 7,9 0	-	•	-	ca. 10	140 250 400 630	6,0-8,0 4,2-6,1 0,2-1,4 0	1340	8,3

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		limitation intermediate speed	high idle s	very characteristics (5e)	Starting Idle switchir	\mathbf{O}	Torque travel	Control rod
rev/min	cm³/1000 strokes	rev/min 4e	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9
1300	74,0-76,0	1320	1000 600	72,5-75,5 64,5-67,5	100	ca.15mmRW	1300 600	0 0,1-0,3

Checking values in brackets

* 1 mm less control rod travel than col. 2

B. Governor Settings

RQV .. 923 D

		•	 	"CAL	/200					· · ·
Upper rated	speed		 Intermediate	rated spe	eed	Lower rated	speed		Stidina s	leeve travel
Degree of dellection of control lever	rev/min Control rodtravel	Control rod travel mm rev/min	 Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel	rev/min	mm (1)
1	2	3	4	5	6	7	8	9	10	11
ca. 68		15,0-18, 9,7-14, 0 - 7 0	-	-	-	ca. 18		9,6-11,7 7,4-10,0 2,0- 5,0 0	1060	8,3
						(3a)				

Torque control travel a = 0,3 mm

C. Settings for Fuel Injection Pump with Fitted Governor

13	Full-load de Control-rod Test oil tem	stop	Rotational-speed (limitation intermediate speed	2 0	Fuel deliv high idle s	rery characteristics (5a)	Starting I Idle switchin		Torque- travel	Control rod
4	rev/min	cm 1/1000 strokes	rev/min (48)	rev/min	cm 1/1000 strokes	rev/min	cm-/1000 strokes	rev/min	travel mm
	1	2	3		4	5	6	7	8	9
)-ISC	1050	77,5 - 78,5 (75,5-80,5)	1090-1100*		500	66,0 - 69,0 (64,0-71,0)		15,0-15,6mm p-over point 270 U/min		
0									1060	0
estoil-									600 (,3-0,4
	Checking va	lues in brackets						* 1 mm less contr		

** With overspeed sensor - adjust so that lamp lights up at n = 1455-1465. After adjusting the sensor, check full load!

B. Governor Settings RQV . . 944 D

Upper rated s	speed			Intermediate	rated spe	ed	Lower rated	speed		Slidina s	leeve travel
Degree of dellection of control lever	rev/min Control rod travel mm	Control rod travel mm rev/min	(a) (2a)	Degree of deflection of control lever		Control r travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm 3	rev/min	mm
ca. 66	1340 1450 1550 1680	15,0-17 8,2-12 0,5- 7 0	,8		5	-	ca. 10	140 250 400 630	6,0-8,0 4,2-6,1 0,2-1,4 0	1340	
							3 a)		·-···		

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-roo Test oil ten		intermediate speed	Fuel deliventing	very characteristics (5a)	Starting Idle switchir	fuel delivery 6	Torque travel	Control rod
rev/min	cm 1/1000 strokes	rev/min (4a)	rev/min	cm ³ /1000 strokes	rev/min	İ	rev/min	travel mm
1	2	3	4	5	6	7	8	9
1300	74,0 - 76,0	1340-1350 * **	1100 500	1	100	ca. 15mm RW	1300	0
							600	0,1-0,3

* 1 mm less control rod travel than col 2

Test Specifications Fuel Injection Pumps (1A) and Governors

BF 6 L 913

WPP 001/4 KHD 6,1 a

7. Edition

PES 6 A 85 D 410/3 RS 2366

.. RS 2415

.. RS 2532

RSV 325-1400 A8B 674D, 707D supersedes 1.85

A8C 674D, 707D company KHD 325-1150 A8B 674D, 707D engine

A8C (74D. 707D

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Note page 3

1,9-2,0 (1.85-2.05)

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque control valve)
rev/min	mm 2	cm 1/100 strokes	cm ¹ / 100 strokes	mm	cm//100 strokes	mm
1050	2	3	4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2	. 3	6
1250	12,4+0,1	8,4-8,5	0,3(0,45)	<u></u>		
325	6,6-6,8	0,9-1,5	0,2(0,4)			
					į.	-
			j		:	

Adjust the fuel delivery from each outlet according to the values in \Box

B. Governor Settings

C RSV 325-1400 A 8 B 674 D, 707 D

Degree of deflection of control fever	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min	Interme	diate rate	d speed	Control- lever deflection in degrees	Lower rev/min 8	rated speed Control rod travel mm 9	9	rque control Control rod travel mm
loose	800 x =	0,7-1,0	•	<u>-</u>	-	ca. 21	325 100	6,2 min.19,0	500 1000 1400	13,7-13,8 13,3-13,5 12,4-12,5
ca. 71	11,4 4,0 1620	1440-1450 1485-1515 0,3-1,7			- <u>-</u>		325 585-6 700	6,6-6,8 45 = 2,0 max.1,0	:	

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ull-load stop	Rotational- speed limitat	3a Ft	uel delivery naracteristics	Starting (luel delivery 5	4a) ldl	e stop
rev/min	cm ¹ /1000 strokes	changed to) rev/min 3	rev/min 4	cm77000 strokes	rev/min	cm/1000 strokes 7	rev/min 8	travel mm 9
LDA *)	C,7 bar	*)	LDA *) LDA 500	0,7 bar 0 bar 60,0-63,0	100	17,6-18,2 mm RW	325	6,7
*) No	te page 3		300	(58,0-65,0)				

Checking values in brackets

* 1 mm less control rod travel than col. 2

4.85

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Festoil-ISO 4113

B. Governor Settings

EP/RSV 325-1150 A8B674D, 707 D

(1) Uppe	r rated speed		Interme	diate rate	d speed	(4)	Lower	rated speed	(3) 10	rque control
Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min				Control- lever deflection in degrees	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
ca. 56		16,0				ca. 21	325	5,5	1130	0
	1200 1250	11,1 5,4	with	hout a	uxilia	ry spri	200	19 - 21		
	1220	7,5-10,4					325 500	5,5-5,8 1,4-3,4	500	1,0-1,2
(2 a)	1300 1380	1,3-3,6 0,3-1,5	Wit	h auxi	iliary	spring	660	0 -1,5		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	il-load stop	6 Rotational- speed limitat	(3a) Ft	uel delivery naracteristics	Starting fuel delivery 5		4a) Idle Stop	
rev/min	emp. 40°C (104°F) cm·/1000 strokes	Note changed to) rev/min	rev/min 4	cm//1000 strokes	rev/min	cm 71000 strokes	rev/min 8	Control rod travel mm
LDA	0,7 bar		LDA	0,7 bar	100	119,5-129,5	325	5,5**
Note	page 3		LDA 500	0 bar 57,5-59,5				

Checking values in brackets

* 1 mm less control rod travel than col. 2

D. Adjustment Test for Manifold Pressure Compensator

Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

	^^^^^		
Pur ip/governor	Setting	Measurement	diminution Controt rod travel- XXX 述述 述论e
	Gauge pressure = bar	Gauge pressure = bar	mm (XXX
all governors	0,38	0,10	0,2 - 0,3 1,6 - 2,0

Notris:

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

En

C. Settings for Fuel Injection Pump with Fitted Governor

C. 5e	ttings for Fi	uei injectio	n Pum	p with Fitte	ea Go	vernor	- 	- 3
engine po Full-load d Control-roi Test oil ten	elivery	Rotational speed fimitation	Fuel deli	very characteristics	Starting Idle switching	fuel delivery ng point	Intermed rotationa Torque	speed
rev/min	cm ¹ /1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ¹ /1000 strokes	rev/min	mm
1	2	3	4	5	6	7	8	İ
	T							

BF 6 L 913 - PES 6 A D..RS2366, 2415 F or B - output at ... min/1

					1.00 00	,	0000
1400	88,0 - 90,0	1420	800	80,0 - 83,0	160 PS	/,	n = 2800
1400	84,0 - 86,0	1420	800	66,0 - 69,0	142 PS 168 PS	/	n = 2800 n = 2650
1325	90,5 - 92,5	1340	850	88,5 - 90,5	160 PS	/	n = 2650
1325	87,5 - 89,5	1340	800	82,5 - 85,5	140 PS	/	n = 2650
1325	82,5 - 84,5	1340 1270	800 800	67,5 - 70,5 84,5 - 87,5	160 PS	′,	n = 2500
1250	87,0 - 89,0	1270	800	04,5 - 07,5	100 13	′	11 - 2500
1250	83,0 - 85,0	1270	800	77,5 - 80,5	148 PS	/	n = 2500
1250	81,0 - 83,0	1270	800	75,5 - 77,5	140 PS	/	n = 2500
1200	86,0 - 88,0	1220	800	84,5 - 87,5	156 PS	/	n = 2400
1200	78,0 - 80,0	1220	800	68,0 - 71,0	135 PS	/	n = 2400
1165	84,0 - 86,0	1180	800	84,5 - 87,5	152 PS	/	n = 2330
		11.05	000	04.5. 07.5	152.00	/	n = 2300
1150	83,5 - 85,5	1165	800	84,5 - 87,5	152 PS 142 PS	/	n = 2300
1150	80,0 -82,0	1165	800 800	79,0 = 81,0 $84,5 - 87,5$	142 PS	/	n = 2200
1100	82,0 - 84,0	`1115 1090	800	84,5 - 87,5	144 PS	′,	n = 2150
1075	82,0 - 84,0 78,0 - 80 ₈ 0	1090	800	76,0 - 79,0	136 PS	′,	n = 2150
1075	76,0 - 60,0	1030	000	70,0 - 77,0	100 . 0	′	
1050	76,5 - 78,5	1065	800	73,5 - 76,5	130 PS	/	n = 2100
1000	82,5 - 84,5	1015	800	84,5 - 87,5	137 PS	1	n = 2000
1000	77,0 - 79,0	1015	800	79,5 - 82,5	130 PS	/	n = 2000
900	82,0 - 84,0	910	800	84,5 - 87,5	125 PS	/	n = 1800
875	68,0 - 70,0	885	800	66,0 - 69,0	106 PS	/	n = 1750
750	85,0 - 87,0	760	_	-	105 PS	/	n = 1500
750 750	78,0 - 80,0	760	_	-		1	n = 1500
750	70,0 - 00,0	700	-		200.0	•	

PLEASE NOTE

- ** With Liebherr excavators: single-lever control, 1. therefore use shorter screw 1 423 400 031 and set this at 0.3 - 1.0 before the stop.
- LDA adjustment to be carried out according 2. to VDT-W-420/305.
- Dimension H = 22.5 mm = basic setting of LDA. 3.

Testoil-ISO 4113

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/40 MB 4.4 e 2. Edition

PES 4 A 90 D 410 RS 2442

ROV 325-1050 AB 922 D

supersedes

8.75 company: **OMB**

engine:

CO 3..

Komb.-Nr. 0 400 844 066

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings 2,15-2,25 Port closing et prestroke (2,10-2,30) mm

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery cm ³ /100 strokes	Difference cm³/ 100 strokes	Control rod travel	Fuel delivery cm ³ /100 strokes	Spring pre-tensioning (torque-control valve) mm
] 1	2	3	4	2	3	6
1000	9	5,1 - 5,5	0,4			
	6	1,6 - 2,6				
200	9	1,9 - 2,9				

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper rated s	peed		Intermedial	e rated sp	eed	Lower rated	speed		Stiding s	leeve travel
Degree of deflection of control lever	rev/min Control rod travel mm	Control rod travel mm rev/min (2	of control	rev/min	Control rod travel mm 4	Degree of deflection of control lever	rev/min	Control rod travel mm 3	rev/min	mm (1)
1	2	3	4	5	6	7	8	9	10	11
	1060 1120 1220 1310	15,0-18,0 9,7-14,4 0-7 0		•	-	ca. 18		9,6-11,7 17,4-10,0 2,0- 5,0	1060	8,3
						3				

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational-speed (2b) limitation intermediate speed	Fuel deli- high idle s	rery characteristics 5e peed 5b	Starting Idle switching		Torque travel	Control cod
rev/min	cm³/1000 strokes	rev/min 4	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	
<u> '</u>	2	3	4	5	8	7	8	9
1050	83,5-84,5 (81,5-86,5	1090-1100*	-	•	100	15,0-15,6 mm RW	1060 600	0 0,3-0,4
				·		e-over point 70 U/min		

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps and Governors

WPP 001/4 DAF 8,3 i 3 6. Edition

Testoil-ISO 4113

RSV 250-750 A 7 B 2124 L PE 6 A 90 D 410 RS 2524 Komb.-Nr. 0 400 676 165

supersedes 3.84

company:

DAF

Cold-start test on EP/RSV governor according to VDT-I-420/114

DH 825

Values apply to fuel-injection test tubing 1 680 015

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2.30-2.40

mm (from BDC)

RW = 9.0 mm

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm ³ /100 strokes	cm ³ / 100 strokes	mm	cm ³ /100 strokes	mm
1	2	3	4	2	3	6
750	9,4-9,5	7, 9- 8,1	0,4(0,55)			
250	6,3-6,5	1, 9- 2,5	0,2(0,4)			
Port closi	differ	ence between o	control-rod	travel	mm and max	4,5-5,5° camsh

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper	rated speed		Intermediate	rated spe	ed	4 Lowe	r rated spe	ed	3 Tor	que control
Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel		Control rod travel
1	2	3	4	5	6	7	8	9	10	11
loose	800	0,3-1,0	-	•	-	ca. 16	250	6,4	•	-
	x =	3,25					250	min.19,0		
59a. 40		0 = 8,4 $5 = 4.0$					260-3	20=2,0		
	955=0					<u> </u>		<u> </u>		

Set idle-speed auxiliary spring at 2 mm control-rod travel, then turn back 1/2 turn. The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-l	cad stop	6 Rotational- speed limitat.		el delivery aracteristics	Starting Idle	fuel delivery	Sa Idi	e stop
Test oil ten rev/min 1	np. 40°C (104°F) cm³/1000 strokes 2	Note: changed to rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	Control rod travel mm 9
750	78,5 - 80,5 (76,5 - 82,5	760 - 770*	-	-	100	19,5-21,0 mm RW	-	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

Testoil-ISO 4113

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WPP 001/4 KHD 1 g 4

3. Edition

En_

PES 6 A 85 D 410/3 RS 2611 Komb.-Nr. O 400 866 111 RSV 325-1200 AOB 2148 L AOC 2148 L supersedes 5.84

company: KHD engine: F 6

F 6 L 913

tractor DX 120-S 21 84 kW (114 PS)

at 2400 min-1

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (2,45-2,65) mm (from BDC)

Rotational speed		2.45-2.65) Fuel delivery	Difference cm ³ /	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm ³ /100 strokes	100 strokes	mm	cm ³ /100 strokes	mm
1	2	3	4	2	3	6
1200	11,3+0,1	6,9 - 7,0	0,3(0,45			
325	8,4-8,6	0,9 - 1,4	0,2(0,4)			
	}					
	Ì	1	•	1		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper	rated speed		Intermediate	rated spe	ed				que control	
Degree of deflection of control lever		Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel	rev/min	Controt rod travel mm
1	2	3	4	5	16	17	8	9	10	11
loose	800	0,3-1,0	-	•	-	ca.32	325	8,5	1200	11,3-11
ı	Х =	4,0								11,6-11
			3			1	325	8,4-8,6	500	11,8-11
.ca.57	10,3	1240-1250	İ			1	450-	8,4-8,6 510=2,0*	300	1 1,0-11
6a.57	4,0	1315-1345				ł				
<u> </u>	1425	0,3-1,7]	1		

** Set idle-speed auxiliary spring at 2 mm control-rod travel.

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-loa	ad stop	6 Rotational- speed limitat.		el delivery tracteristics	Starting Idle	fuel delivery	(5a) Idle stop	
Test oil temp. 40°C (104°F) rev/min cm³/1000 strokes 1 2		Note: changed to rev/min 3	rev/min cm³/1000 strokes 4 5		rev/min 6	cm ³ /1000 strokés 7	rev/min 8	Control rod travel mm 9
1200	69,5-70,5 (67,5-72,5)	i240-1250*	800	63,5-65,5 (61,0-68,0)	-	-	-	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps and Governors

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WPP 001/4 FOR 4,2 g

3. Edition

E

PES 4 A 90 D 210 RS 2627 Komb.-Nr. 0 400 864 052

RSV 350-1300 AOB 2144 L AOC 2144 L supersedes 10.83 Ford

engine

Dover 254

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

At port closing the locating pin must engage

in the slot of the pointer.

Testoil-ISO 4113

Port closing at pres	troke (2	2,65-2,85)	mm (from BDC)	bei	RW 9,0 - 12,0	mm
Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm ³ /100 strokes	cm³/ 100 strokes	mm	cm ³ /100 strokes	mm
t	2	3	4	2	3	6
1250	13,5+0,1	7,4 - 7,5	0,3(0,45			
350	7,2-7,4	0,7 - 1,3	0,2(0,4)			
		i]	
1	<u>.</u>	İ	I]	
	<u> </u>	<u> </u>	<u> </u>	<u> </u>		<u> </u>

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper	rated speed		Intermediate	rated spe	ed	4 Lowe	r rated spe	ed	(3) Tot	rque control
Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel mm	rev/min	Control rod travel
1	2	3	4	5	6	17	8	9	10	11
loose	800	0,3-1,0	-	-	•	ca.35	350	6,9	-	-
	X =	3,5					350	7,3-7,5		
ca.69	12,5 4,0 1705	1365-1375 1530-1560 0,3-1,4					560-	520=2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-load stop		6 Rotational- speed limitat.		el delivery aracteristics	Starting Idle	fuel delivery	(5a) Idle stop		
Test oil ten rev/min 1	np. 40°C (104°F) cm³/1000 strokes 2	Note: changed to rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	Control rod travel mm 9	
1250	73,5-74,5 (71,5-76,5)	1365-1375*	-	-	İ	76,0-90,0 73,0-93,0) = 19,5 - 21,0 mm RW	-	-	

Checking values in brackets

* 1 mm less control rod travel than col. 2

0

Testoil-ISO 411

Test Specifications Fuel Injection Pumps ① and Governors

40

WPP 001/4 MAN 11,4 d 2. Edición

Eη

PES 6 A 95 D 410 LS 2644 Komb.-Nr. O 400 846 520 ROV 250-1100 AB 1178 L

supersedes 9.83

company: MAN

engine: D2566ME

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,5

5_1 65) mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1100	12,0+0,1	12,5-12,7	0,35(0,6)			
250	6,9-7,1	0,9-1,5	0,35(0,5)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed		Intermedial	e rated sp	eed	Lower rated	speed	4	Sliding s	leeve travel
Degree of deflection of control lever	rev/min Control rod travel mm	Control rod (1) travel mm rev/min (2)	Degree of deflection of control lever	rev/min	Control rod travel mm 4	Degree of deflection of control lever	rev/min	Control rod travel mm 3	rev/min 10	mm 11
max.	1125	15,2-17,8 1140-1150	7	-	-	ca.12	100 250	min.8,5 6,9-7,1	500	0,7-0,9 3,7-4,2
Cu. 40	4,0 1300	1175-1205							800 1100	5,3-5,8 8,1
Ì						3				

Torque control travel a = mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		limitation intermediate speed			Starting Idle switchin		Torque- travel	control (5) Control rod travel
rev/min	cm³/1000 strokes .	rov/min 4a	rev/min	cm³/1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	mm
1	2	3	4	5	6	7	8	9
1100	124,5-126,5 (122,5-128,5)	1140-1150*	500 750	107,5-113,5 (105,0-116,0 113,0-116,0 (110,5-138,5	}	121,5-131,5 (118,5-134,5 = 14,0-14,6 mm RW		-

Checking values in brackets

* 1 mm less control rod travel than col. 2

^{**} Setting of idle stop at 250 min/1 to 7,0 mm control-rod travel

 \odot

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 VAU 5,4 a 1

2. Edition

PES 6 A 95 D 320 RS 2646 Komb.-Nr. 0 400 846 533

RQV 300-1300 AB 1163-1 R

supersedes 9.84

company: Vauxhall

engine: 330 T/C

Testoil ISO 4115

Att test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel injection Pump Settings

Port closing at pre	STOKE	(2.45-2.65) mm (rom BDC)							
Rotational speed	Control rod travel	Fuel delivery	Difference cm ³ /	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)			
rev/min	mm	cm ³ /100 strokes	100 strokes	mm	cm ³ /100 strokes	mm			
1	2	3	4	2	3	6			
810	9,7-9,8	6,4-6,6	0,35(0,6	•					
300	5 9-6 1	0.8-1.4	7 0 35(0 5]			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed			Intermediate	rated sp	eed	Lower rated	speed		Slidings	leeve travel
deflection of control	rev/min Control rod travel mm 2	Control rod travel mm rev/min 3	(1) (28)	Degree of deflection of control lever	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever 7	rev/min 8	Control rod travel mm 3	rev/min 10	0
max. ca. 61	8,7 4,0 1600		50 35	-	ı	-	ca. 17 350-490	100 300	min.7,4 5,9-6,1	500	0,9-1,1 3,1-3,5 5,7-5,8 8,0
							3	<u> </u>			

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-roo Test oil ten		limitation intermediate speed	1 1 ,		Starting Idle switchin		Torque- travel	control S Control rod travel
rav/min	cm³/1000 strokes	rev/min 4a	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	mm.
1	2	3	4	5	6	7	8	9
810	63,5-65,5 (61,5-67,5)	1350-1360*	1200 500	(69,5-76,5)	100 300	(83,5-99,5) = 19,5-21,0 mm RW		•

Checking values in brackets

* 1 mm less control rod travel than col. 2

7.85

BOSCH

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 MB 6.0 a

2. Edición

PES 6 A 90 D 410 RS 2667

RQV 300-1400 AB 1065-4 L

supersedes 11.84
Daimler-Benz

Komb.-Nr. 0 400 846 522

engine: 0M 366

Values apply to fuel-injection test tubing 1 680 750 015

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

2,25-2,35
Port closing at prestroke (2,20-2,40) mm (from BDC)

· Ott Cooming at pro-		(2,20-2,40)				
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1400	11,1+0,	6,4-6,5	0,3(0,45			
300	8,9-9,	0,9-1,3	0,2(0,4)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	speed			Intermediate	rated sp	eed	Lower rated	speed	Stiding steeve travel		
deflection of control	_	traver .	וכ	Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm 3	rev/min	mm
1	2	3	_	4	5		1	8	40.0		
max.	1500	15,2-17	,8 	-	-	•	ca. 25	100 300	min.10,3 8,9-9,1		0,7-0,9 3,8-3,9 5,3-5,4
ca. 65	10,1 4,0 1630		75				540-68			1400	7,7
						<u> </u>	3	L			

Torque control travel a = 1,1 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) 2		limitation		rery characteristics (5a)	Starting Idle switchir		Torque- travel	Control (5) Control rod
rev/min	cm³/1000 strokes	rev/min 4a	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	
1	2	3	4	5	6	7	8	9
1400	63,5-64,5 (61,5-66,5)	1440-1450*	500	51,0-54,0 (48,5-56,5)	100	78,0-88,0 (75,0-91,0)		11,1+0 12 ,3 +0
			900	53,5-56,5 (51,0-59,0)	·	=16,4-17,0 mm RW		11,8+0 11,4+0

Checking values in brackets

* 1 mm less control rod travel than col. 2

6.85

BOSCH

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Test Specifications Fuel Injection Pumps (1) and Governors

WPP 001/4 KHD 8,0 o

2. Edition .

E

PES 5 A 95 D 410 RS 2680

ROV 300-1150 AB 1088-1 L

Komb.-Nr. 0 400 845 080

supersedes 8.84 company: KHD

engine: F 5 L 413 FRW

85 kW

Tunnelling or mining vehicles

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

1,5-1,6
Port closing at prestroke (1,45-1,65) mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference cm ³ /	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm ³ /100 strokes	100 strokes	mm	cm ³ /100 strokes	mm 6
1150	9,0-9,1	7,2-7,4	0,35(0,6)			
300	6,4-6,6	1,3-1,7	0,35(0,55)		
	·				ļ	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed			Intermediate	rated sp	eed	Lower rated	speed	•	Sliding s	leeve travel
Degree of deflection of control lever	rev/min Control rod travel mm	Control rod travel mm rev/min 3	(a) (2a)	Degree of deflection of control lever	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever 7	rev/min 8	Control rod travel mm 3	rev/min 10	0
max.	1190	15,2-17,	8	-	-	-	ca. 13		nin.8,0	300	1,0-1,5
ca.64		1190-120 1240-12 7 0-1,0	0				315 -41 5	300		-	3,2-3,5 8,5-8,6 10,7
							3e				

Torque control travel a = 1,4 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp 40°C (104°F) 2		limitation intermediate speed	high idle speed (59)		Starting fuel delivery 6 Idle switching point		Torque- travei	control (5) Control rod travel
rev/min	cm ³ /1000 strokes	rev/min 44)	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	mm
1	2	3	4	5	6	7	8	9
1150	72,0-74,0 (70,0-76,0)	1190-1200*	600 650 **	80,5-83,5 (78,0-86,0) 98,5-101,5 (96,0-104,0)	100	(112,0-128,0) = 14,0-14,6	1150 500 800 1000	9,0-9,1 10,4+0,1 10,0+0,2 9,2-9,5

Checking values in brackets

** Adjusted with the full-load stop unblocked. Solenoid switched off.

* 1 mm less control rod travel than col. 2

5.85

BOSCH

Geschäftsberaich KM. Kundendienst. Kfz-Ausrüstung. C by Robert Bosch GmbH. D-7 Stuttgart 1, Posifisch 50. Printed in the Federal Republic of Germany Imprime en République Federale d'Allemagne par Robert Bosch GmbH. ①

Testor-ISO

Test Specifications Fuel Injection Pumps ① and Governors

40

WPP 001/4 KHD 9,6 m

2. Edición

_E

PES 6 A 95 D 410 RS 2681 Komba-Nr. 0 400 846 530 RQV 300-1150 AB 1088-1 L

supersedes 8.84 company: KHD

engine: F 6 L 413 FRW

102 kW

Tunnelling or mining vehicles

Att test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	stroke	(1,45-1,65)	mm (from BDC)			
Rotational speed	Control rod travel	Fuel delivery	Difference cm ³ /	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm ³ /100 strokes	100 strokes	mm	cm ³ /100 strokes	mm
4450	0 0 0 4	7054	0.25(0.6)	-	 	- 0
1150	9,0-9,1	7,2-7,4	0,35(0,6)		<u> </u>	
300	6,4-6,6	1,3-1,7	0,35(0,59)		
]		j			}
		<u> </u>				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated: Degree of deflection of control	rev/min	Control rod travel	intermediate Degree of deflection of control	rated sp	eed Control rod travel	Lower rated Degree of deflection of control	speed	Control rod travel	Sliding s	leeve travel
lever	mm 2	rev/min 29		rev/min 5	mm (4)	lever 7	rev/min 8	mm (3)	rev/min 10	mm 11
max.	1190	15,2-17,8	-	-	 	ca. 13	100	min.8,0		1,0-1,5
ca.64	8,0 4,0 140 0	1190-1200 1240-1270 0-1,0				315-415	300	6,4-6,6	_	3,2-3,5 8,5-8,6 10,7
					<u> </u>	③				

Torque control travel a = 1,4 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test off temp. 40°C (104°F) 2		stop p. 40°C (104°F) (2) Ilmitation intermediate speed		_		fuel delivery 6	Torque travel	Control Control rod	
?ev/min	cm ³ /1000 strokes	rev/min 🚭	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	mm .	
1	2	3	4	5	6	7	8	9	
1150	72,0-74,0 (70,0-76,0)	1190-1200*	650	80,5-83,5 (78,0-86,0)	100	115,0-125,0 (112,0-128,0	500 800		

Checking values in brackets

* 1 mm less control rod travel than col. 2

4.85

BOSCH

Geschäftsbereich KM. Kundendienst. Kfz-Ausrüstung C by Robert Bosch GmbH, D-7 Stuttgart 1, Positisch 50. Printed in the Federal Republic of Germany. Imprime en République Fédérale d'Allemagne per Robert Bosch GmbH.

Test Specifications Fuel Injection Pumps and Governors

WPF 001/4 MB 2,0 L

3. Edition

En

restoil-ISO 4113

PES 4 M 55 C 320 RS 152-1

RSF 375/2250 M 55-1

Komb.-Nr. 0 400 074 960 / Sales model 0 400 074 959
1- 3- 4 - 2
0-90-180-270

Supersede 5.84

company 0M 601

engine 53 kW

Schweden

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,00-2,10 (1,95-2,15)

mm (from BDC)

RW 20,0-22,0 mm

Note: Before starting testing, observe the Control rod travel important instructions on the reverse.

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (compensating valve)
rev/min	mm	cm ³ /100 strokes	cm ³ /100 strokes	mm	cm³/100 strokes	mm
1	2	3	4	2	3	6
1000	11,1+0,1	3,1-3,2	0,25(0,3)			
375 1800 2200	5,4-5,6	0,5-0,6	0,10(0,15) 0,25(0,3) 0,25(0,3)			
				<u> </u>		

Set uniform delivery according to the values in

Checking values in brackets

B. Governor Settings

Lower rated sp	eed		Upper rated spe	eed		Variations in co	ntrol rod trave	91
Degree of dellection of control	Control rod travel	, , , , , ,	Degree of deflection of control	Control rod travel	Rotational speed		Rotational speed	Control rod travel
lever	mm .	rev/min	lever	mm	ten/win		ten/unu	mm
1,	2	3	4	5	6	7	8	9
13-17 ₁ 2 3 4 5	1,5	375	50 (7) (8) (9) (1)	10,3-10 7,8-8, 0-1,0		(12) (13) (14) (6)	100 1800 1000 Switching po	min. 20,1 10,8-11,0 11,1-11,2

C. Settings for Fuel Injection Pump with Governor Mounted

livery (19)	Full-load speed (8a) regulation	Variations delivery	. ~	Starting f	uel delivery	Difference
cm³/1000 strokes 2	rev/min 3	rev/min 4	· · ·	rev/min 6	cm³/1000 strokes 7	cm 1/1000 strokes
33,0-35,0 (32,0-36,0)	2500* 7,8-8,2 mm RW	1800		100 375	min. 55 5,0 6,0 (4.5-9.0)	6,0 (2a) 1,0 (1,5)
	*****	1000	31,0-32,0 (30,0-33,0)	2500	22,0-26,0	2,5 (3,0)See Point 8 a (6)
•	0 40°C (104°F) cm³/1000 strokes 2 33,0-35,0	0 40°C (104°F) cm³/1000 strokes rev/min 2 3 33,0-35,0 2500*	0 40°C (104°F) cm³/1000 strokes 2	7 40°C (104°F) cm³/1000 strokes 2	7 40°C (104°F) cm³/1000 strokes 7 rev/min 3 rev/min 4 cm³/1000 strokes 7 rev/min 6 rev/min 5 100 33,0-35,0 (32,0-36,0) 7,8-8,2 mm RW 1000 31,0-32,0 2500	1800 34,0-35,5 (32,0-36,0) 7,8-8,2 mm RW 1800 31,0-32,0 2500 2500 2500 2500 2500 2500 2500 2

Checking values in brackets

* ca. 2.4 less control rod travel than in Column 2

BOSCH

Geschäftsbereich KH. Kundendienst. Kfz-Ausrüstung.
1980 by Robert Bosch GmbH, Postfach 50, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprimé en République Fédérale d'Allemagne par Robert Bosch GmbH.

Important:

Test specifications apply to control rod stop screw with collar 6.3 nm dia. and thread M 10×1 .

For pump versions with control rod stop screw with collar 5.3 mm dia. and thread M 8 x 1, all specified control rod travel values must be increased by 0.5 mm.

- 1. ** Checking the idle speed auxiliary spring setting at n = 400 rpm, control rod travel (4.3-4.7 mm)
- 2. Setting the idle control lever position:

At 1000 rpm, control rod travel 0.9 - 1.0 nm.

3. Checking the idle speed auxiliary spring shut-off

Control lever position 50°, after change-over point (from starting curve) until 1000 rpm, max. permissible control rod travel 0.2 mm. Control lever position 48.5°; after change-over point (from starting curve) control rod travel must be greater than 0.2 mm.

4. Checking the pneumatic shut-off box

Control lever on idle stop. At n = 375 rpm and pu = 450 mbar (vacuum) (338 mm Hg), the control rod must travel rapidly to control rod position = 0 mm.

- 5. Overflow valve 1 469 990 351.
- 6. Port closing difference between largest/smallest value max. 1° camshaft angle.
- 7. Setting the idle speed control rod travel on the pneumatic idle boost box

When doing this, release the lock nut.

8. Checking the pneumatic idle boost:

With 0.4 bar vacuum, n = 425 rpm, control rod travel = (7.0 - 8.6 mm) Delivery = $(11.0 - 19.0 \text{ cm}^3/1000 \text{ strokes})$.

9. Leak test (vacuum test) of pneumatic idle boost box

Apply 0.8 bar vacuum to the pneumatic idle boost box via a three-way valve and a pressure gauge. Using the three-way valve, disconnect the vacuum supply from the pneumatic idle boost box and pressure gauge. Permissible pressure drop 30 mbar in 15 sec.

10. Start-of-delivery sensor setting

Start-of-delivery sensor setting and locking according to average port closing value for all cylinders 19.5 \pm 0.2 (0.3)° camshaft angle after cylinder 1.

HAY

Test Specifications Fuel Injection Pumps and Governors

WPP 001/4 MB 2,0 m

1. Edition

En

PES 4 M 55 C 320 RS 152-3 RSF 375/2300 M 55-5 Komb.-Nr. 0 400 074 934

supersedes + Daimler-Benz company OM 601 engine 53 kW

1-3-4-2 0-90-180-270
All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings 2,00-2,10

Port closing at prestroke (1,95-2,15)

mm (from BDC)

Note: Before starting Control rod travel testing, observe the important instructions on the reverse.

Schweden

RW = 20,0-22,0 mm

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (compensating valve)
rev/min	mm	cm ³ /100 strokes	cm³/100 strokes	mm	cm ³ /100 strokes	mm
1	2	3	4	2	3	6
1000	11,1+0,1	3,1-3,2	0,25 (0,3)			
375 1800 2200	5,4-5,6	0,5-0,6	0,1(0,15) 0,25(0,3) 0,25(0,3)			
				•		

Set uniform delivery according to the values in [1]

Checking values in brackets

B. Governor Settings

			Upper rated speed					Variations in control rod travel			
travel	·	deflection of control	1	travel		·	!	Rotational speed	Control rod travel		
mm	rev/min	lever		mm	revimir	3	<u> </u> _	revimin	mm		
2	3	4		5	6		7	18	9		
5,4-5,6	375	50	7				<u> </u>	1800 2200	min.20,1 10,8-11,0 10,3-10,5		
1,5	630-730		<u>@</u>			2950		Switching p	oint		
	Control rod travel mm 2 min.11. 5,4-5,6 4,4-4,6	Control rod Rotational speed travel rev/min 3	Control rod travel Rotational speed travel Degree of deflection of control lever 3	Control rod travel Rotational speed deflection of control lever 2 min . 11 . 5	Control rod travel mm rev/min 2 min . 11 . 5 250 5 . 4-5 . 6 375 4.4-4 . 6 - 9 0 - 1 . 0	Control rod travel mm	Control rod travel Rotational speed travel Degree of deflection of control lever mm rev/min	Control rod travel Rotational speed travel Degree of deflection of control lever mm rev/min	Control rod travel Rotational speed travel		

C. Settings for Fuel Injection Pump with Governor Mounted

Full-load de	elivery (19)	Full-load speed 8a	Variations delivery	in fuel 17	Starting f	uel delivery	
Test oil ten	np 40°C (104°F)	-		18		1	Difference
rev/min	cm³/1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	cm ³ /1000 strokes
1	2	3	4	5	6	7	8
2200	33,0-35,0 (32,0-36,0)	2500 * RW = 7,8-8,2	1800	34,0-35,5 (33,0-36,5)	100 375	min. 55 5,0-6,0 (4,5-9,0)	6,0 1,0 (1,5)
			1000	31,0-32,0 (30,0-33,0)	2500	22,0-26,0 (21,0-27,0)	2,5 See (15) (3,0)Point 8 a (16)
				(32,33		(23,5 27,6)	1 _

Checking values in brackets

* ca. 2,4

less control rod travel than in Column 2

- 1. ** Checking the idle speed auxiliary spring setting at n = 400 rpm,
 control rod travel (4.3-4.7 mm)
- 2. Setting the idle control lever position:

At 1000 rpm, control rod travel 0.9 - 1.0 nm.

3. Checking the idle speed auxiliary spring shut-off

Control lever position 50°, after change-over point (from starting curve) until 1000 rpm, max. permissible control rod travel 0.2 mm. Control lever position 48.5°; after change-over point (from starting curve) control rod travel must be greater than 0.2 mm.

4. Checking the pneumatic shut-off box

Control lever on idle stop. At n=375 rpm and pu = 450 mbar (vacuum) (338 mm Hg), the control rod must travel rapidly to control rod position = 0 mm.

- 5. Overflow valve 1 469 990 351,
- 6. Port closing difference between largest/smallest value max. 1" camshaft angle.
- 7. Setting the idle speed control rod travel on the pneumatic idle boost box

When doing this, release the lock nut.

8. Checking the pneumatic idle boost:

With 0.4 bar vacuum, n = 425 rpm, control rod travel = (7.0 - 8.6 mm) Delivery = $(11.0 - 19.0 \text{ cm}^3/1000 \text{ strokes})$.

9. Leak test (vacuum test) of pneumatic idle boost box

Apply 0.8 bar vacuum to the pneumatic idle boost box via a three-way valve and a pressure gauge. Using the three-way valve, disconnect the vacuum supply from the pneumatic idle boost box and pressure gauge. Permissible pressure drop 30 mbar in 15 sec.

10. Start-of-delivery sensor setting

Start-of-delivery sensor setting and locking according to average port closing value for all cylinders $19.5 \pm 0.2 \, (0.3)^\circ$ camshaft angle after cylinder 1.

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 FIA 5,5 h

2. Edition

estoil 100

PES 6 MW 80/720 RS 1015 0 403 446 142

ROV 300-1600 MW 47

supersedes 12.83

Iveco-Fiat 8060.24.670

engine:

121 kW

0-60-120-180-240-300

Rotational speed

rev/min

1000

300

1600

1-5-3-6-2-4

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

Fuel delivery

cm³/100 strokes

6.0-6.2

1,05-1,45

A. Fuel Injection Pump Settings 2,10-2,20

Port closing at prestroke

Control rod

12,7+0,1

9,2-9,3

12,7+0,1

mm

2.05-2.25)

mm (from BDC

mm (from BDC)	RW = 9,	0 - 12,0 mm	
Difference cm ⁻³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
0,35(0,6)			
0,35(0,55)		
0,5 (0,7)			

Adjust the fuel delivery from each outlet according to the values in g

B. Governor Settings

Upper rated :	speed	<u> </u>		Intermediate	rated sp	eed	Lower rated	speed		Sliding	leeve travel
Degree of deflection of control	rev/min Control rod travel	Control rod travel mm		Degree of deflection of control		Control rod travel	Degree of deflection of control		Control rod travel	Sildings	0
lever	mm	rev/min	(29)	lever	rev/min	mm (4)	lever	rev/min	mm (3)	rev/min	mm
1	2	3		4	5	6	7	8	9	10	11
max.	1640 1850	15,2-17, 0-1,0					ca. 22		min.10,8 9,2-9,3		
ca. 65	11,7 4,0	1640-165 1785-181					330-800		•		
							3 a				

Torque control travel a =

Test electrically unlocked starting delivery with 24 V.

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load of Control-ro Test oil ter		Rotational-speed (2b) limitation intermediate speed	high idle s	very characteristics (5a) speed (5b) cm³/1000 strokes	idie switchii	• 0	Torque- travel	Control roc travel
1	2	3	4	5	6	7	8	9
1000	60,0-62,0 (58,5-63,5)	1640-1650*	1600	69,0-73,0 (67,0-75,0)	100 300	19-21 mm RW 120,0-130,0 (117,0-133,0) 10,5-14,5 (8,0-17,0)		·

Checking values in brackets

* 1 mm less control rod travel than col. 2

4.85

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Test Specifications Fuel Injection Pumps 1 and Governors

40

WPP 001/4 PER 10,0 d

· 2. Edition

Testoil-ISO 4113

PES 8 MW 100/720 RS 1019 0 403 448 109

1-8-7-5-4-3-6-2

RQV 375-1200 MW 38

supersedes -

company: Perkins

engine: ATV 8.640 177 kW (241 PS)

0-45-90-135-180-225-270-315+0,5(0,75)

+ Port-closing mark, see reverse

All test specifications are valid for Boach Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

3,00-3,10 Port closing at prestroke (2,95-3,15) mm (from BDC) RW 9,0-12,0 mm

Rotational speed	Control rod	Fuel delivery	Difference	Control rod	Fuel delivery	Spring pre-tensioning
rev/min	travel	•	cm³/ 100 strokes	travel mm	cm ³ /100 strokes	(torque-control valve)
1	2	3	4	2	3	6
1200	11,9+0,1	9,9 - 10,1	0,35(0,6)			
375	6,8-7,0	1,15- 1,55	0,35(0,55			
700	11,9+0,1		0,5 (0,7)			
;						
		<u></u>	<u> </u>	<u> </u>	<u> </u>	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed		Intermediat	e rated sp	eed	Lower rated	speed			Sliding s	leeve travel
Degree of deflection of control lever	rev/min Control rod travel mm	travel	Degree of deflection of control lever	rev/min 5	Control rod travel mm 4	Segree of deflection of control lever 7	rev/min 8	Control root travel mm (3	rev/min 10	mm 11
max.	1200 1400	15,2-17,8 0,1- 1,0		-	-	ca. 14	1	6,8-7,0 min.8,5			
ca.64	1	1240-1250 1340-1370				(3a)	630-6	90= 2,0)		

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ten		Rotational-speed 2b timitation intermediate speed	Fuel delh high idle s	very characteristics (5a)	Starting Idle switchir	•	Torque- travel	control (5)
rev/min	cm³/1000 strokes	rev/min 49	rev/min	cm³/1000 strokes	rev/min	cm³/1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9
1200	99,0-101,0	1240-1250 *	700	97,0-101,0	100	RW 19-21	; ;	
]	(95,0-101,0)			(95,0-103,0)		min. 140,0		
				İ				
					100-2	80 (80-290)		

Checking values in brackets

* 1 mm less control rod travel than col. ?

4.85

BOSCH

Port closing and TDC markings

Comb. - No.

... 109

o camshaft between port-closing
and TDC

at control-rod travel 9 - 12 mm

15°

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 PER 10,0 g

2. Edition

estoil-ISO 4113

PES 8 MW 100/720 RS 1019 0 403 448 111

RQV 375-1200 MW 38-1

supersedes

company:

Perkins MIV8.640

engine:

194 kW (264 PS)

1-8-7-5-4-3-6-2

0-45-90-135-180-225-270-315+0,50(0,75)

+ Port-closing mark, see reverse

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings in the

3,00-3,10
Port closing at prestroke (2,95-3,15)

mm (from BDC) 9-12,0 mm RW

		12.33-3.131	المنازب المستدين ويبرون			
	Control rod irevel	Fuel delivery cm ³ /100 strokes	Difference cm ³ / 100 atrokes	Control rod travel	Fuel delivery cm³/100 strokes	Spring pre-tensioning (torque-control valve)
1	2	3	4	2	3	6
1200	11,6+0,1	10,1 - 10,3	0,35(0,6)			
375	6,8-7,0	1,15 - 1,55	0,35(0,55)		
700	11,6+0,1		0,5 (0,7)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed		Intermediate	rated sp	eed	Lower rated	speed	<u> </u>	Sliding steeve travet	
Degree of deflection of control lever	rev/min Control rod travel mm 2	Control rod ta travel mm rev/min 28	Degree of deflection of control lever	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever	rev/min 8	Control rod travel mm 3	rev/min 10	mm 11
max.	1200 1400	15,2-17,8 0,1- 1,0	-	-	-	ca.16	375 100	6,8-7,0 min.8,5		
ca.64		1240-1250 1315-1345				3	560-0	620= 2,0		

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) 2		Rotational-speed 2b timitation intermediate speed			Starting Idle switchir	•	Torque- travel	Control co
rev/min	cm³/1000 strokes	rev/min 4	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9
1200	101,0-103,0	1240-1250*	700	93,0-97,0	100	min. 140,0		
	(99,0-105,0			(91,0-99,0)				
					100-2	280 (80-290)	ī.	

Checking values in brackets

* 1 mm less control rod travel than col. 2

4.85

BOSCH

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Port closing and TDC markings

Comb. - No.

camshaft between port-closing and TDC

... 111

at control-rod travel 9,0- 12,0 mm

15°

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 PER 10,0 1 2. Edition

En

Testoil-ISO 4113

PES 8 MW 100/720 RS 1020 0 403 448 112

RQV 375-1200 MW 38

supersedes

company: Perkins

engine.

AIV 8.640 153 kW (208 PS)

1- 8- 7- 5 - 4 - 3 - 6 - 2 0-45-90-135-180-225-270-315

+ Port-closing mark, see reverse

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

3,00-3,10 mm (from BDC) RW 9,0-12,0 mm

Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Cifference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1200	10,0+0,	1 8,2 - 8,4	0,35(0,6)			
375	5,6-5,	8 1,35 - 1,75	0,35(0,55			
800	10,0+0,	1 7,85 - 8,25	0,5 (0,7)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed		Intermediate	rated sp	eed	Lower rated	speed	•	Sliding sleave travel	
Degree of deflection of control	rodtravel	Control rod (a) travel mm	of control		Control rod travel	Degree of deflection of control	<u> </u>	Control rod travel	rev/min	(1)
lever 1	mm 2	rev/min 28	lever 4	rev/min 5	mm (4)	lever 7	rev/min 8	mm (3) 9	10	11
max.	1200	15,2-17,8	-	-	-	ca.16	375	5,6-5,8		
	1400	0,1-1,0					100	min.7,3		
ca.64	9,0	1240-1250			İ		540-6	00 = 2,0		
	4,0	1305-1385				3 9				

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roc Test oil ten		Rotational-speed (2b) limitation intermediate speed			Starting idie switchir	_	Torque- travel	control (5)
rev/min	cm³/1000 strokes	rev/min 48	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
1	2	3	4	5	8	7	8	9
1200	82,0-84,0	1240-1250*	800	78,5-82,5	100	min. 140,0		
	(80,0-86,0)			(76,5-84,5)		(137,0)		
				•				
					100-	280 (80-290)		

Checking values in brackets

* 1 mm less control rod travel than col. 2

4.85

BOSCH

Geschäftsbereich KM, Kundendienst, Kfz-Ausrüstung. C by Robert Bosch GmbH, D-7 Stuttgart 1, Postfach 50. Printed in the Federal Republic of Germany. Imprime en République Fédérale d'Allemagns per Robert Bosch GmbH.

Port closing and TDC markings

Comb. - No.

camshaft between port-closing and TDC

... 112

at control-rod travel 9,0 - 12,0 mm

15°

Testoil-ISO 411

Test Specifications Fuel Injection Pumps and Governors

WPP 001/4 MB 11,8 m

2. Edition

PE6P100A720RS15

RSV350-750P1/365R

Komb.-Nr. 0 401 876 142

5R

P1A365R

En

supersedes

company:

10.82 Daimler-Benz

Spring pre-tensioning (torque-control valve)

engine

OM 355

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	troke	2,8-2,9 (2,75-2,95)	mm (from BDC)	RW= 9,0-12,0 mm		
Rotational speed	Control rod travel	Fuel delivery		Control rod travel	Fuel delivery	
rev/min	mm	cm ³ /100 strokes	cm³/ 100 strokes	mm	cm³/100 strokes	

rev/min mm cm³/100 strokes cm³/100 strokes mm cm³/100 strokes mm cm³/100 strokes mm cm³/100 strokes mm 6

730 12,7+0,1 10,6-10,8 0,3(0,6)
350 7,1-7,3 1,4-2,0 0,3(0,5)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper Degree of deflection of control lever	deflection travel of control		Intermediate rated speed Degree of Control rod deflection travel of control lever rev/min mm		deflection of control		Control rod travei		que control Control rod travel	
1	2	3	4	5	6	7	8	9	10	11
loose	750	0,3-1,0	-	-	••	ca.17	350	7,2	-	•
	x =						100 350	min. 19,5		
€3. 33	11,7 4,6 850	750-760 780-795 0,3-1,7					355-41	7,1 - 7,3 5 = 2,0 * *		

^{* *} Set idle-speed auxiliary spring at 1,5-2,0 mm control-rod travel.

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-l	oad stop	6 Rotational- speed limitat. 3a Fuel delive characteris		el delivery tracteristics				5a) Idle stop		
Test oil temp. 40°C (104°F) rev/min cm³/1000 strokes 1 2		Note: changed to rev/min 3	rev/min cm³/1000 strokes 4 5		rev/min cm ³ /1000 strokes 6 7		rev/min 6	Control rod travel mm 9		
730	106,0-108,0 (104,0-110,0)	750-760 *	-	-	100	140,0-160,(136,0 - 164,) -))	-		

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 PER 10,0 i 2. Edition

Testoil-ISO 4113

PES 8 MW 100/720 RS 1021 0 403 448 108

1-8-7-5-4-3-6-2

ROV 250-1300 MW 30

supersedes -

Perkins company:

engine:

V8.640 V

160 kW (218 PS)

+ Port-closing mark, see reverse

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

0-45-90-135-180-225-270-315+0.50(0.75)

A. Fuel Injection Pump Settings 3,00-3,10 (2,95-3,15)

mm (from BDC) RW 9,0-12,0 mm

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Oifference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1300	10,7-0,1	9,0 - 9,2	0,35(0,6)			
250	6,4-6,6	1,35 - 1,75	0,35(0,55)		
800	10,7+0,1		0,5 (0,7)			
				<u> </u>		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed	4	Intermediate	rated sp	eed	Lower rated	speed	4	Sliding s	Stiding steeve travel	
deflection	rodtravel	Control rod travel mm rev/min 28	of control	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever	rev/min	Control rod travel mm 3	rev/min 10	0	
max.	1300 1500	15,2-17,8 0-1,0	-	<u>-</u>	-		250 100	6,4-6,6 min.8,1			
ca. 64	9,7 4,0	1340-1350 1425-1455	1			39	490-5	50 = 2,0			

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) 2 rev/min cm³/1000 strokes		Rotational-speed (2b) limitation intermediate speed rev/mln	89		Starting Idle switchir rev/min	ng point	Torque- travel	Control S Control rod travel
1	2	3	4	5	6	7	8	9
1300	90,0-92,0 (88,0-94,0)	1340=1350*	800	89,5-93,5 (87,5-95,5)	100	min. 140		
					100-	180 (80-200)		

Checking values in brackets

* 1 mm less control rod travel than col. 2

Port closing and TDC markings

Comb. - No.

 $^{\rm o}$ camshaft between port-closing and TDC

... 108

at control-rod travel 9,0 - 12,0 mm

15°

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 PER 10,0 n 2. Edition

En

toil-ISO 4113

PES 8 MW 100/720 RS 1106 0 403 448 117

1-8-7-5-4-3-6-2

0-45-90-135-180-225-270-315

RQV 250-1300 MW 30-1

supersedes 9.82

company:

Perkins V 8.640 V

engine:

160 kW (218 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings 3,00-3,10

+ Port-closing mark, see reverse

3,00-3,10 mm (from BDC) RW 9,0-12,0 mm

	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm G
1300	10,7-0,1	9,0 - 9,2	0,35(0,6)			
250	6,4-6,6	1,35-1,75	0,35(0,55			
800	10,7+0,1		0,5 (0,7)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated :	speed	···	Intermediate	rated sp	eed	Lower rated	speed		Sliding s	leeve travel
Degree of deflection of control fever	rev/min Control rod travel mm	Control rod ta travel mm rev/min 2a	Degree of deflection of control lever	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever	rev/min 8	Control rod travel mm 3	rev/min 10	mm 11
max.	1300 1550	15,2-17,8 0 - 1,0	i	-	-	ca. 14	250 100	6,4-6,6 min.8,1		
ca.64	9,7 4,0	1365-1375 1450-1480	1			3 9	490-5	550= 2,0		

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-ros Test oil ten		Rotational-speed 2b timitation intermediate speed	Fuel delic high idle s	very characteristics 5a	Starting Idle switching		Torque- travel	control 5
rev/min	cm³/1000 strokes	rev/min 4a	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9
1300	90,0-92,0	1340-1350*	800	89,5-93,5	100	110,0-120,0		
	(88,0-94,0)			(87,5-95,5)				
								·
					100-1	180 (80-200)		

Checking values in brackets

* 1 mm less control rod travel than col. 2

4.85

BOSCH

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Port closing and TDC markings

Comb. - No.

° camshaft between port-closing and TDC

... 117

at control-rod travel 9,0 - 12,0 mm

15°

①

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 VOL 12,0 a 1
2. Edition

_En

PE 6 P 110 A 320 RS 141 Komb.-Nr. 0 401 846 377

RQV 250-1100 PA 371/2 R

supersedes 7.83

engine:

TD 120 A

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

estoil-ISO 4113

ort closing at prestroke (2,55-2,75) mm (from BDC)

+
± 0,1
- 2,9)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed		Intermediate	rated sp	eed	Lower rated	speed	•	Stiding s	leeve travel
Degree of deflection of control lever	rev/min Control rod travel mm 2	Control rod ta travel mm rev/min 2s	Degree of deflection of control lever	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever 7	rev/min 8	Control rod travel mm 3 9	rev/min 10	0
max. ca.46	1100 10,3 4,0 1300	15,2-17,8 1140-1150 1220-1250 0-1,0	-	- .	-	ca.13	100 250 320-	min.6,5 5,0-5,2 380 = 2,0	500	0,7-0,9 3,0-3,3 5,1-5,4 7,9
İ		·				<u>3</u>				

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load of Control-ro Test oil ter		Rotational-speed 2b timitation intermediate speed	high idle s		Starting Idie switchir	<u> </u>	Torque- travel	Control rod
rev/min	cm³/1000 strokes	rev/min 🐠	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	mm
1	2	3	4	5	8	7	8	9
LDA 700	0,9 bar 181,0-183,0 (178,0-185,0		LDA 700	0 bar 125,0-129,0 (123,0-131,0		350,0-390,0 = 20,0-21,0 mm RW	-	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

D. Adjustment Test for Manifold Pressure Compensator VOL 12,0 a 1

Testatn =

500

rev/min decreasing pressure – in bar gauge pressure increasing

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PE6PRS141 + RQVPA371-2R	0,90	0 0,50 0,22	11,3-11,4 8,8-8,9 10,7-10,8 9,3-9,5

Notes

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

Test Specifications Fuel Injection Pumps (A) and Governors

WPP 001/4 MB 11,8 b 1 3. Edition

En

PE 6 P 110/720 RS 176

RSV 300-1100 P 1/303 R

.. P 1A303 R

Komb.-Nr. 0 401 876 110

supersede5.84

company Daimler-Benz

engine OM 355 Schmitt

snow plough

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

estoil-ISO 4113

2,8.2,9 (2,75-2,95)

mm (from BDC) RW = 9.0 - 12.0 mm

Rotational speed	Control rod	Fuel delivery	Difference	Control rod	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm (2)	cm³/100 strokes	cm ³ / 100 strokes	m:m	cm³/100 strokes	mm
1	2	3	4	2	3	6
1100	12,7+0,1	13,5-13,7	0,4 (0,8)			
300	7,5-7,7	1,2-1,8	0,4 (0,7)			
				L		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control tever	r rated speed Control rod travel mm 2	rev/min Control rod travel mm rev/min 3	Interme	diate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	rev/min	rque control Control rod travel mm 11
max.	800 x =	0,3-0,7 4,75	•	•	-	ca.21	300 300 495 - 555	7,1 7,5-7,7 = 2,0		
ca.56	11,7 4,0 1260	1140-1150 1235-1255 0,3-1,4								·

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	emp 40°C (104°F)	Rotational- speed limitat Note: changed to :) rev/min		el delivery aracteristics cm ³ /1000 strokes	Starting findle rev/min	uel delivery 5 cm³/1000 strokes	•	Control rod travel mm
1100	135,0-137,0 (132,0-140,0)	1140-1150*	-	-	100	170,0-190, (166,0-194	0 ~	-

Checking values in brackets

* 1 mm tess control rod travel than col 2

Test Specifications Fuel Injection Pumps and Governors

WPP 001/4 DAF 11.6 k

6. Edition

En

PE 6 P 120 A 320 RS 372

RSV 250-1100 P5/458R

supersedes 5 • 84

Komb.-Nr. 0 401 876 229

company DAF

Note VDT-I-420/114!

engine DKS 1160

235 kW (320 PS)

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (2, 75-2, 95) mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm³/100 strokes	cm³/ 100 strokes	mm	cm ³ /100 strokes	mm
1	2	3	4	[2	3	6
850	10,9+0,1	19,3 - 19,7	0,5 (0,9			
250	6,2-6,4	1,1 - 1,5	0,65(0,9	5)		
] 		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper	rated speed		Intermediate	rated spe	ed	4 Lowe	r rated spe	ed	(3) To	rque control
Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	rev/min	Control rod travel
1	2	3	4	5	6	7	8	9	10	11
loose	800	0,3 - 1,0	-	-	-	ca. 24	250	5,8	400 300	11,1+0, 11,3+0,
	x =	5,0					250 620-	6,2-6,4 $580 = 2,0$		
€a. 54	9,9 4,0 1425	1140-1150 1260-1290 0,3-1,7								

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-lo	ad stop	6 Rotational- speed limitat.		el delivery tracteristics	Starting Idle	fuel delivery	5a tdle stop		
Test oil temp. 40°C (104°F) rev/min cm³/1000 strokes 1 2		Note: changed to rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	Control rod travel mm 9	
LDA 850	0,7 bar 193,0-197,0 (190,0-200,0)	1140-1150*	LDA 600	0 bar 135,5-137,5 (132,5-140,5)	100	320,0-360,0 (316,0-364, = 19,5 - 21,0 mm Rk	O)	-	

Checking values in brackets

* 1 mm less control rod travel than col 2

Testoil-ISO 4113

Test at n = rev/min decreasing pressure - in bar gauge pressure 600

Pump/governor	Setting	Measurement	diminution , Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PE6P120RS 372	0,36		10,6-10,7
withP5/458R		0,70	10,9-11,0
		0	9,8-9,9
		0,28	10,0-10,4

Notes

(1) when n =

rev/min and gauge pressure =

bar (= maximum fulf-load control rod travel)

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 MAN 11,1 q 1 6. Edition

PES 6 P 110 A 720 LS 375

RQV 250-1100 PA 373 DR

supersede 1.84

Komb.-Nr. 0 402 046 180

company: MAN

engine:

D 2566 MTF

206 kW (280 PS)

2200min

MAN-Nr. 1-7983

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel injection Pump Settings 3,0 - 3,1 Port closing at prestroke (2,95-3,15) mm

mm (from BDC) 7v1

		(2,33-3,13)		Ly1. 0;	RR = 9.0 - 12	. U IIIII U.
Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (forque-control valve) mm 6
1100	12,4+0,1	14,6-14,9	0,4(0,75)			
250	7,3-7,5	1,0-1,5	0,45(0,75)	- 	
1		ŀ	5	8	1	Į

Adjust the fuel delivery from each outlet according to the values in E

B. Governor Settings

Upper rated to Degree of	rev/min	Control rod	<u>_</u>	Intermediate Degree of	rated sp	eed Control rod	Lower rated Degree of	speed	Control rod	Sliding	leeve travel
deflection of control fever	rod trave	travel mm rev/min 3	(a)	deflection of control lever	rev/min	travel mm (4	deflection of control lever	rev/min	mm 3	rev/min 10	mm 11
max.	1140	15,2-17	7,8	-	-	-	ca. 13	100	min.8,9	325	1,7-2,2
ca.65	11,4	1140-1 1225-1						250 520-	7,3-7,5 580=2,0	900 1100	6,2-6,4 8,0-8,2
	1,0	1223					390-510		·		
							3				

Torque control travel a = 0,9

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) 2 rev/min		limitation intermediate speed			idle switching point		travel	Control S Control rod travel
rev/min	CM-/1000 strokes .	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	ww
1	2	3	4	5	6	7	8	9
LDA	0,7 bar	1140-1150*	LDA	0,2 bar	100	225,0-245,0	1100	12,4+0.
1100	146,0-149,0		500	123,0-127,0		(221,0-249,0		13,3+0,
	(143,5-151,5			(120,0-130,0				13,0+0,
LDA	0.7 bar		LDA	0 bar	250	10,0-15,0		12,5+0,
700	157,0-161,0		500	110,0-113,0		(7,5-17,5)		
	(154,0-164,0			(107,5-115,5				

Checking values in brackets

* 1 mm less control rod travel than col. 2

8.85

Geschäftsbereich KH. Kundendienst. Kiz-Ausrüstung.

O by Robert Bosch GmbH, D-7 Stuttgart 1, Postfach 50. Printed in the Federal Republic of Germany Imprime en Republique Féderale d'Allemagne par Robert Bosch GmbH.

D. Adjustment Test for Manifold Pressure Compensator

MAN 11,1 q 1

Testatic =

500 rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PES 6 PLS 375 + RQVPA 373 DR	0,70	0 0,20 0,32	13,3-13,4 11,3-11,4 11,8-11,9 12,6-12,8

Notes:

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

Test Specifications Fuel Injection Pumps ① ①

and Governors

2. Edition

PES 4 P 80 A 720 LS 852 Komb.-Nr. 9 400 087 301 RQV 350-1000 PA 609-1

supersedes 12.84

WPP 001/4 CAT 7,0 b

Caterpillar

3304 T

107 PS

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroké

mm (from BDCz RW = 9.0-12.0 mm

		(1,00 1,00)				
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	12,2+0,1	10,7-10,8	0,25(0,35)		
350	6,7-6,9	1,0-1,7	0,2 (0,3)			
				<u> </u> 		•
			1	1	1	_1

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper rated s	peed			Intermediate	rated sp	eed	Lower rated	speed	Stiding steeve travel		
Degree of defiection of control lever 1	rev/min Controi rod travel mm 2	mm .		Degree of deflection of control lever	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever	rev/min 8	Control rod travel mm 3	rev/min	mm 11
max. ca. 68	1010 11,2 4,0 1200	15,2-17, 1030-104 1110-114 0-1,0	40 40	-	1	-	a. 17	100 350 530-	min.11,5 6,3-6,6 590 = 2,0		

Torque control travel a = 1,0

C. Settings for Fuel Injection Pump with Fitted Governor

1	d stop np. 40°C (104°F) 2					fuel delivery 6 ng point cm ³ /1000 strokes	Torque travel	Control (5) Control rod travel mm
1000	2 106,5-107,5 (105,0-109,0)	3 1030-1940*	700 500	5 113,0-115,0 (111,0-117,0) 109,0-112,0 (107,0-113,0)		7 17,6-18,6 mm RW	850 700	9 12,2+0,1 12,7+0,2 13,1+0,2 13,2+0,1

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps (A) and Governors

40

WPP 001/4 DEE 7,6 g
2. Edition

En

US-PES 6 P 110 A 720 RS 3083

US-RSV 400-1050 P2/488-1

supersedes 8.6

Komb.-Nr. 9 400 231 175

company John Deere 6466 A 168 とど

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (3,40-3,60)

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm (2)	cm ³ /100 strokes	cm ³ / 100 strokes	mm	cm/100 strokes	mm
1	2	3	4	2	3	6
1050	12,4+0,1	14,7-15,0	0,4(0,75)			
400	6,6-6,8	1,4-2,0	0,45(0,75)		7
	ŀ					

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Uppe	er rated speed	l rev/min	Interme	diate rated	speed	(4)	Lower	rated speed	(3) to	rque control
Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min	4	5	6	Control- lever deflection in degrees 7	rev/min	Control rod travel mm	rev/min	Control rod travel mm
loose	800 X=	0,3-1,0	-	-	-	ca.25	400 100	6,2 min.19,0		12,4-12,5 13,6-13,9
ca.45	11,4 4,0 1300	1095-1105 1175-1205 0,3-1,7					400 600-66	6,6-6,8 0=2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	II-load stop emp 40°C (104°F) cm ¹ /1000 strokes 2	Rotational- speed fimitat Note: changed to) rev/min 3		el delivery aracteristics cm ^{1/1} 000 strokes 5	Starting fidle rev/min 6	cm ¹ /1000 strokes		e stop Control rod travel mm
LDA 1050 **	1,2 bar 146,5-149,5 (144,0-152,0)	1095-1105*	LDA 700 LDA 500	1,2 bar 179,0-183,0 (176,0-186,0) 0 bar 91,0-95,0 (88,098,0)	100	156,0-176 (152,0 - 180	.0 400 ,0)	6,7

Checking values in brackets

* 1 mm less control rod travel than col 2

BOSCH

D. Adjustment Test for Manifold Pressure Compensator

rev/min decreasing pressure – in bar gauge pressure 500 Control rod travel-Pump/governor Setting Measurement * difference Gauge pressure = bar | Gauge pressure = bar mm (1) US-PES6P..RS3083 0 10,4-10,5 +US-RSV..P2/488-1 12,9-13,0 0,66 11,0-11,4 0,40

Notes:

(1) when n =

Test at n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

DEE 7,6 g

-2-

** Setting without a compensating spring retainer at 1 mm control-rod travel less. Boosting of the full load fuel delivery with the compensating spring retainer to 11.5 mm control-rod travel.

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 PAO 31,8 a 2 2. Edition

PE 12 P 130 A 120 RS 3094 Komb.-Nr. U 401 830 703

ROV 350-900 PA 618

supersedes 5, 25 Baudouin

company: V 12 P 15 SRCN

1-12- 9- 4 - 5 - 8 - 11- 2 - 3 - 10- 7 - 6

engine

 $0-45-60-105-120-165-180-225-240-285-300-345 \pm 0,5^{\circ} (\pm 0,75^{\circ})$

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 074. All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings
Portclosing at prestroke

2,8-2,9
(2,75-2,95) mm

mm (from BDC)

RW = 9.0 - 12.0 mm

		12,73-2,331			$\frac{1}{1}$	2,0 111111
Rotational speed rev/min	travel	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
900	12,2+0,1	30,9 - 31,2	0,6(1,0)			
350	4,8-5,0	2,0 - 2,6	1,0(1,4)			

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper rated s	speed	•	Intermediate	rated sp	eed	Lower rated	speed		Clidian	dagua traval
deflection	rev/min Control rod travel mm	Control rod (a) travel mm rev/min (2a)	Degree of deflection of control lever	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever	rev/min	Control rod travel mm 3	rev/min	
	-		<u> </u>	-		 	8	9	10	<u> </u>
max.	940	15,2-17,8	-	-	-	ca.30	350	4,8-5,0	325	,2-1,6
ca. 62	11,2 4,0 1150	940-950 1005-1035 0 - 1,0				350-450			500 3 750 6 900	,1-3,8 ,0-6,4 7, 9
						3 a)			300	190

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter rev/min		Rotational-speed 20 timitation intermediate speed rev/min 48	(3)		idie switchi	fuel delivery 6 ng point cm³/1000 strokes	Torque- travel	Control 5 Control rod travel
1	2	3	4	5	6	7	8	9
900	309,0-312,0 (305,0-315,0		1	-	350	20,0-26,0 (16,0-30,0)	-	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

A 85

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 BAO 31,8 a

2. Edition

PE 12 P 130 A 120 RS 3094-1 RQV 400-750 PA 632 1 - 12 - 9 - 4 - 5 - 8 - 11 - 2 - 3 - 10 - 7 - 6 0-45-60-105-120-165-180-225-240-285-300-345°±0,5°(±0,75°) supersedes 9.83

company. Baudouin

V 12 P 15 SRCN

Values only apply to test nozzle-and-holder assembly Komb.-Nr. 0 401 830 704 1 688 901 019 and fuel-injection test tubing 1 680 750 074.

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Rotational speed	Control rod travel	Fuel delivery	Difference cm ³ /	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm ³ /100 strokes	100 strokes	mm	cm ³ /100 atrokes	mm
700	44 4.0 4	20 6 21 0	0.5(0.0)	2		6
	11,4+0,1		0,5(0,9)	L		
400	3,5-3,7	2,1-2,7	70,8(1,2)			
				İ	1	
			1	İ		1

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

	mm '	Intermediate Degree of deflection of control lever	rated sp rev/min 5	ced Control rod travel mm 4	Lower rated Degree of deflection of control lever 7	rev/min	Control rod travel mm 3	Stiding s rev/min 10	mm
ca. 24	750-755 780-790 0 -1,0	-	•	-	ca. 6	400	3,5-3,7	375 450- 650 750	0,5-0,7 2,0-2,1 4,3

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load of Control-ro Test oil ter		Rotational-speed 2b timitation intermediate speed			Starting Idle switchin		Torque-control (5 travel Control ro	
rev/min	cm³/1000 strokes	rev/min 4a	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
<u> 1</u>	2	3	4	5	6	7	8	9
700	306,0-310,0 (303,0-313,0)	750-755*	•	•	400	21,0-27,0 (18,0-30,0)	•	<u>-</u>

Checking values in brackets

* 1 mm less control rod travel than col. 2

Testoil-ISO 411

WPP 001/4 MB 11,4 o

4. Edition

En

PES 6 P 120 A 820 LS 3095

RSV 350-750 P1/487

supersedes 8.83

company: Daimler-Benz

engine: OM 407 A 169 kW (230 PS)

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 067

Komb.-Nr. 0 402 076 717

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

4,0 - 4,1
Port closing at prestroke (3,95-4,15)

mm (from BDC) cy1.6; RW = 9,0-12,0 mm

		3,33-4,13/				
Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm ³ /100 strokes	cm ³ / 100 strokes	mm	cm ³ /100 strokes	mm
l	2	3	4	2	3	6
730	12,4+0,1	19,6 - 19,8	0,5(0,8)			
350	5,7-5,9	3,0 - 4,0	0,8(1,2)			
		1				
	İ	!	ł		1	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper	rated speed		Intermediate	rated spe	ed	4 Lowe	r rated spe	ed	(3) To	que control
Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel mm	rev/min	Control rod travel
1	2	3	4	5	6	7	8	9	10	11
loose	700 x =	0,3-1,0 2,25	-	•	-	-	-	-	-	-
€a. 33	11,4 4,0 900	750-755 776 - 789 0,3-1,7								

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-l	oad slop				Starting Idle	fuel delivery	5a Idle stop		
Test oil ten rev/min 1		Note: changed to rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min 8	Control rod travel mm 9	
730	196,0-198,0 (193,0-201,0)		-	-	100	170,0-190,0 (166,0-194	0)	-	
						•			

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 SCA 11,0 ;
3. Edition

Er

PE 6 P 110 A 720 RS 3115

ROV 200-1100 PA 468

supersedes 8.84

company Saab-Scania

engine:

DN 11 01

Komb.-Nr. 0 401 846 764

See page 2

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	stroke	(3.25-3.45)	mm (from BDC)	10Y= 9,0		
Rotational speed	Control rod travel	Fuel delivery	Difference cm ³ /	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min 1	mm 2	cm ³ /100 strokes	100 strokes	mm 2	cm ³ /100 strokes	mm 6
600	12,4+0,1	11,9-12,1	0,5(0,8)			- +
000	12,410,1	11,5-12,1			<u> </u>	$3,3^{\pm}0,1$
225	5,4-5,6	2,0-2,4	0,2(0,4)			(3,0-3,5)
		Ī	1			
		Ī				

Adjust the fuel delivery from each outlet according to the values in ______.

B. Governor Settings

Upper rated s	peed	•	Intermedia	Intermediate rated speed			speed	Stirting	Sliding sleeve travel	
deflection of control		mm rev/min	Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel mm 3	rev/min	mm 1
1	2	3	4	15	6	7	8	9	10	11
max.	1120	15,2-17	,8 -	-	-	ca. 11		min.6,9 5,4-5,6	150 470	0 -0,3 3,6-4,2
ca. 61	11 ,4 4,0 1400	1140-11 1250-12 0 - 1				3		390=2,0	780 1100	5,6-5,8 8,3

Torque control travel a =

mп

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational-speed 2b limitation intermediate speed	Fuel deliv	very characteristics 5e peed 50	Starting Idle switching		Torque- travel	control (5)
rev/min	cm³/1000 strokes .	rev/min 49	rev/min	cm ³ /1000 atrokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9
600	119,0-121,0 (117,0-123,0		1100	119,5-124,5 (11 7 ,0-127,0		230,0-290,0 = 20,0-21,0 mm RW		-

Checking values in brackets

• 1 mm less control rod trevel then col. 2 05 • 85

BOSCH

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SUPPLEMENTARY INFORMATION

- Checking and adjustment without a ROBO diaphragm
- For combination with letter index see VDT-I-400/116
- For sealing, see VDT-I-400/117
- Test specifications approved by Scania on 22.8.1983
- Start of fuel delivery-engine: 21° before TDC
- Firing sequence, engine : 1-5-3-6-2-4

(1)

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 VOL 12,0 k

3. Edition

PE 6 P 120 A 320 RS 3118 Komb.-Nr. 0 401 846 772

RQV 250-1025 PA 657

supersedes1.85

Values apply to

company: Volvo engine: TD 121 F

Calibrating nozzle-and-holder assembly 1 688 901 019 Test-pressure line

1 680 750 067

282 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

mm (from BDC) : RW = 9.0-12.0 mm Port closing at prestroke 2.55-2.75 Control rod travel Spring pre-tensioning (torque-control valve) Control rod travel Fuel delivery Rotational speed Fuel delivery Difference cm³/ 100 strokes cm³/100 strokes cm³/100 strokes mm rev/min mm $2,5 \pm 0,1$ 700 13,3+0,1 23,8-24,1 0,5(0,9)(2,2-2,9)250 3,3-3,5 0,5(0,7)1.8-2.3

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper rated s	peed		Intermediat	e rated sp	eed	Lower rated	speed		Stiding sleeve travel	
deflection	rev/min Control rod travel	travel	Degree of deflection of control		Control rod travel	Degree of deflection of control		Control rod travel		0
lever	mm	rev/min (2s	lever	rev/min	mm (4)	iever	rev/min	mm (3)	rev/min	mm 11
	4000	45 0 47 6	-		6	1	400	A O		
max.	1090	15,2-17,8	-	-	-	ca. 10	100 250	min.4,8 3,3-3,5	200 430	0,7-0,9 3.5-3.9
ca. 65	12,3	1085-1095	1	•		İ	250	3,3-3,5	660	3,3-3,5
	4,0	1153-1180)	1	i	ļ	285-	345=2.0	-	6,4-6,6
	1250	0-1,0		l			}	•	945	7,6
1			ŀ				ļ		1025	7,0
			1			3a			<u> </u>	

Torque control travel a =

- mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-foad delivery Control-rod stop Test oil temp. 40°C (104°F) 2 rev/min cm³/1000 strokes		intermediate speed		idle switchir	<u> </u>	Torque- travel rev/min	Control 5 Control rod travel	
۱,	2	3	4	5	6	7	8	9
LDA 700	1,2 bar 238,0-241,0 (235,0-244,0		LDA 700	0 bar 138,0-142,0 (135,0-145,0		240,0-280,0 = 20,0-21,0 mm RW 18,0-23,0	1	1

Checking values in brackets

* 1 mm less control rod travel than col. 2

7.85

Geschäftsbereich KH, Kundendienst. Kfz-Auerüstung. C by Robert Bosch GmbH, D-7 Stuttgart 1, Postfach 50. Printed in the Federal Republic of Germany Imprime en République Fédérale d'Allemagne par Robert Bosch GmbH.

D. Adjustment Test for Manifold Pressure Compensator VOL 12.0 k

Test at n

500 rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	I Control rod travet	diminution difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)	
PE 6 PRS 3118 + RQVPA 657	1,20	0 0,80 0,17	13,3 - 8,8 - 13,1 - 9,2 -	9,0 13,2

Notes

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)



Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 VOL 12,0 K 1

3. Edition

PE 6 P 120 A 320 RS 3118 Komb.-Nr. 0 401 846 782

ROV 250-1100 PA 657-1

supersedes 5.85 company: VO1VO

Calibrating nozzle-and-holder assembly 0 681 443 019 Test-pressure line 1 680 750 067 Test-pressure line

engine. TD 121 FD 282 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
700	13,3+0,1	23,8-24,1	0,5 (0,9)			2,5 [±] 0,1
250	3,3-3,5	1,9-2,3	0,5 (0,7)			(2,2-2,9)
				<u> </u>		

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

				e rated sp	Control rod	Lower rated Degree of	speed	Control rad	Stiding sleeve travel		
of control	rod travel	travel C	deflection of control lever	rev/min 5	mm 4	deflection of control lever 7	rev/min 8	mm 3	rev/min	mm 11	
max.	1 180	15,2-17,8	-	-	-	ca. 9	100	min. 5,0	200	0,7-0,9	
ca. 61	4,0	1160-1170 1240-1270					250	i i	430	3,4-3,9	
	1350	0 - 1,0		:				·		6,4-6,6	
						3			100	7,3	

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) (2)		Rotational-speed 2b Ilmitation intermediate speed	Fuel deli- high idle s	very characteristics (5a)	Starting Idle switchis	_	Torque- travel	control 5
rev/min	cm ³ /1000 strokes	rev/min 49	rev/min cm³/1000 strokes		rev/min cm³/1000 strokes		rev/min	travel mm
1	2	3	4	5	6	7	8	9
LDA 700	1,2 bar 238,0-241,0 (235,0-244,0		LDA 700	0 bar 138,0-142,0 (135,0-145,0		240,0-290,0 = 20,0-21,0 mm RW	-	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

7.85

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D. Adjustment Test for Manifold Pressure Compensator VOL 12,0 K 1 - 2 -

Test at n = 500 rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel difference
	Gauge pressure = bar	Gauge pressure = bar	mm (f) .
PE6P RS 3118 + RQV PA 657-1	1,20	0 0,80 0, 1 7	13,3-13,4 8,8-9,0 13,1-13,2 9,2-9,5

Notes

(1) when n

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

estoil-ISO 4113

40

Fuel Injection Pumps 1 and Governors

Test Specifications

PE 12 P 130 A 120 RS 3127 ROV 350-900 PA 618
1-12-9-4-5-8-11-2-3-10-7-6
0-45-60-105-120-165-180-225-240-285-300-345° ± 0.5° (±0.75°)

company: Baudouin:
12 P 15-2 AN-SR

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 074.

Kom.-Nr. 0 401 830 708

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	troke	(2,75-2,95)	mm (from BDC)	RW =	9,0 - 12,0 mm	·
Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm ³ /100 strokes	100 strokes	mm	cm ³ /100 strokes	mm
1	2	3	4	2	3	6
900	12,2+0,1	30.9-31,2	0,6 (1,0)			
350	4.8-5.0	2.0-2.6	1.6 (1,4)			
						1
	}					

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed			Intermediate	rated sp	ed		Lower rated	speed			Sliding sleeve travel	
deflection of control	rev/min Control rod travel mm	travet v		Degree of deflection of control lever	rev/min	Control i travel mm 6	rod 4	Degree of deflection of control lever 7	rev/min	Control travel mm	rod 3	rev/min	mm 11
max. ca. 62	940 11.2 4.0 1150	15.2-17 940-950 1005-103 0 - 1.0	35	-	-	-		ca. 30 350-450	350	min.(4,8-		325 500 750 900	1,1-1,3 3,1-3,8 6,0-6,4 8,0
								<u>3a</u>					

Torque control travel a = - mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (†04°F)		Rotational-speed (2b) fimitation intermediate speed	Fuel deliv	rery characteristics 5a speed 5b	Starting Idle switchir	•	Torque- travel	Control 5 Control roc travel
rev/min	cm ³ /1000 strokes	rev/min 4a	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	mm
1	2	3	4	5	6	7	8	9
900	309.0-312.0 (304.0-316.0)		-	-	_	-	-	-

Checking values in brackets

* 1 mm less control rod travel than col 2

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 MB 14,6 m 3. Edition

PE 8 P 110 A 320 LS 3813 RQV 350-1150 PA 378 Komb.-Nr. 0 401 848 740 1 - 8 - 7 - 2 - 6 - 3 - 5 - 4 je 45° ±0,5° (± 0,75°)

Note VDT-I-401/102

supersedes 9.83

company: Daimler-Benz

OM 422 206 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (3,95-4,15 mm (from BDC) cy1.8; RW = 9.0 - 12.0 mm

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery x cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery ** cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 8
1130	12,6+0,1	12,3-12,5	0,4(0,8)	11,5+0,	13,1-13,3	n=1150 min ⁻¹
350	8,2-8,3	1,2-1,7	0,4(0,7)	7,4-7,6	1,4-1,8	
			0,6(0,9)	600 1150	C, Sp.4 u.5	
* with	return t	hrottle (1)			** without ret	urn throttle (2)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	pead			Intermediate	rated sp	eed	Lower rated	speed		Stidion	leave travel
deflection of control	Control rod travel	Control rod travel mm rev/min	(a) (2a)	Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control		Control rod travel		deeve travel
1	2	3	6	4	5	mm (4 6	lever 7	rev/min 8	mm (3) 9	rev/min 10	11
max.	1130	15,2-17	7,8	-	-	-	ca. 14	100	min.8,7	30ป	0,6-0,9
ca. 62	11,6 4,0 1400	1280-13					375-485	350	7,0-7,2	580 870 1150	3,6-3,8 5,2-5,3 7,6
			1				3 a				

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roc Test oil ten		Rotational-speed 20 limitation intermediate speed	Fuel delic high idle s	rery characteristics (5a)	Starting Idle switchli	\mathbf{O}	Torque- travel	control (5
rev/min	cm³/1000 strokes .	rev/mln 49	rev/min	cm³/1000 strokes	rev/min	cm³/1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9
(1)		1180-1190*	-	-	100	130,0-150,0	-	-
1130	123,0-125,0 (120,0-128,0							
						•		

Checking values in brackets

* 1 mm less control rod travel then col. 2

Upper rated st	peed			Intermediate	rated spe	ed		Lower rated	speed			Siiding s	eeve travel
deflection	Control	travel	æ	Degree of deflection		Control ro	đ	Degree of deflection		Control rod travel			0
	rodtravel mm	mm rev/min (2a)	of control tever	rev/min	mm	4	of control lever	rev/min	mm (3	rev/min	mm
1	2	3	_	4	5	6		7	8	9		10	11
max.	1170	15,2-17,	,8	-	-	-		ca. 14	100	min.8,	7	300	0,6-0,9
ca. 62	10,5 4,0 1400		25					375-485	350	7,0-7,	2		3,6-3,8 5,2-5,3 7,6
	1400	0 - 1,	, 0					39 39					

Torque control travet a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roo Test oil tem	stop	Rotational-speed (2b) timitation intermediate speed	Fuel deliv	very characteristics (5a) speed (5b)	Starting Idle switchin		Torque- travel	control 5
rev/min	cm³/1000 strokes	rev/min 4a	rev/min	cm³/1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
(2) 1150	131,0-133,0 (128,5-135,5		600 1150	109,0-113,0 (106,0-116,0 84,0-87,0 (81,0-90,0))	140,0-160,0 (136,0-164,0)	-	-

Checking values in brackets

Testoil-ISO 4113

* 1 mm less control rod travel than col 2

•• Reduced delivery

B. Governor Settings

Upper rated s	speed			Intermediate	rated spe	ed	Lower rated	speed		Sliding s	eeve travel
Degree of deflection	rev/min ¡Control	Control rod travel	(10)	Degree of deflection	1	Control rod travel	Degree of deflection	1	Control rod travel		0
of control lever	rod travel mm	mm tev/min	(28)	of control lever	rev/min	mm 4	of control lever	rev/min	mm ③	rev/min	mm
11	2	3		4	5	6	7	8	9	10	11
							39				

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-rod Test oil tem	livery stop p. 40°C (104°F) 2	Rotational-speed (2b) limitation intermediate speed (4a)	Fuel deliv high idle s	rery characteristics 56 peed 56	Starting tdle switchir	luel delivery 6	Torque-	Control rod travel
rev/min	cm ³ /1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min		rev/min	mm
1	2	3	4	5	6	7	8	9
			1					
Ì				7				
			ł					
1			1		ļ			
į			}		1			
						•		
			ļ					

Checking values in brackets

* 1 mm less control rod travel than col. 2

Testoil-ISO 4113

WPP 001/4 BAU 31,8 b 1

2. Edition

PE 12 P 130 A 120 RS 3127

ROV 400-750 PA 632

supersedes 5.85

Komb.-Nr. 0 401 830 707

company: Boudouin

1-12- 9- 4 - 5 - 8 - 11- 2 - 3 - 10- 7 - 6

12 P 15

0-45-60-105-120-165-180-225-240-285-300-345 ± 5 ° (± 0,75°) engine:

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1'680 750 074.

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Oliference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
700	12,0+0,1	30,7-31,0	0,6(1,0)			
400	4,4-4,6	2,1-2,7	1,0(1,4)			
			ļ			

Adjust the fuel delivery from each outlet according to the values in F

B. Governor Settings

Upper rated :	speed			Intermediate	rated sp	660	Lower rated	speed		Sliding	leeve travel
Degree of deflection of control lever	rodtrave	Control rod travel mm rev/min	(b) (2s)	of control	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel mm 3	rev/min	mm (1)
1	2	3		4	5	6	7	8	9	10	11
ca. 25	11,0 4,0 900	750-755 776-789 0-1,0)	•	-	-	ca. 6	100 400	min.6,0 4,4-4,6		-
							3 a				

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ten	np. 40°C (104°F) 2	Rotational-speed ②D limitation intermediate speed	fuel delichigh idle s		idle switchii	_	Torque- travel	Control 5 Control rod travel
1	2	3	4	5	6	7	8	9
700	307,0-310,0 (303,5-313,5		•	-	•	-	-	-

Checking values in brackets

* 1 mm less control rod travel than cot. 2

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 MB 11,0 m 4. Edition

PE 6 P 110 A 320 LS 3814

ROV 350-1150 PA 378

supersedes Q83

Komb.-Nr. 0 401 846 741

company: Daimler-Benz

1-6-3-5-2-4

0-75-120-195-240-315° ± 0,5° (± 0,75°)

engine: OM 421

Note VDT-I-401/102

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel injection Pump Settings
4,0-4,1
Port closing at prestroke (3,95-4,15) mm

mm (from BDC)

cy1. 6: RW = 9.0-12.0 mm

0. t d. to t. t. t. t. t. t. t. t. t. t. t. t. t.	1.55	3,33-4,13/			-3 · 0 · 0 · 1/11 - 3	30 1230 Hall
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery mit RSD (1) cm³/100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery ohne RSD (2) cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1130	12,7+0,1	12,3-12,5	0,4(0,8)	12,7+0,1	13,4-13,6	
350	8,2-8,4	1,3-1,9	0,4(0,7)	8,2-8,4	1,3-1,9	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated :	peed	1		Intermediate	rated sp	eed	Lower rated	speed		Sliding s	leeve trave!
Degree of deflection	rev/min Control	Control rod travel	(19)	Degree of deflection		Control rod travel	Degree of deflection		Control rod travel		①
of Control. lever	rod travel mm 2	rev/min 3	20	of control lever	rev/min 5	mm ④	of control lever 7	rev/min 8	mm (3)	rev/min 10	mm 11
max.	1150	15,2-17	,8	-	•	-	ca. 16		min. 8,5	300	0,6-0,9
ca.66	11,7 4,0 1400	1180-119 1285-13 0-1,	15				375-485	350	8,2 - 8,4	580 870 1150	3,6-3,7 5,2-5,3 7,6
			-, - -				39				

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) cov/min cm³/1000 strokes		Rotational-speed (20) limitation intermediate speed rev/min	(a)		idie switchir		Torque- travel	Control 5 Control rod travel mm
1	2	3	4	5	6	7	8	9
(1) 1130	123,0-125,0 (120,0-128,0)	1170-1180*	-	-	100	130,0-150,0	-	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

3.85

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Upper rated	speed			intermediate	intermediate rated speed			speed		Sliding sleeve travel	
Degree of deflection of control fever		Control rod travel mm rev/min	$\overline{)}$	Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel		1
1	2	3)	4	5	6	7	8	9	10	11
max.	1150	15,2-17	,8	-	-	-	ca. 16	100	min.8,5		0,6-0,9
ca. 66	11,7 4,0 1400	1190-119 1285-13 0-1,0	15				375-485	350	8,2-8,4	580 870 1150	3,6-3,7 5,2-5,3 7,6
							(3a)				

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter	d stop	Rotational-speed (2b) limitation intermediate speed	Fuel delic high idle :	very characteristics (5a) speed (5b)	Starting Idle switching		Torque- travel	Control roo
rev/min	cm³/1000 strokes	rev/min 4a	rev/min	cm³/1000 strokes	rev/min	cm ¹ /1000 strokes	rev/min	travel mm
(2) 1150	134,0-136,0 (131,5-138,5		1150	93,0-97,0 (90,0-100,0)	100	140,0-160,0 (136,0-164,0	-)	-

Checking values in brackets

Testoil-ISO 4113

* 1 mm less control rod travel than col. 2

•• Reduced delivery

B. Governor Settings

Upper rated	speed			Intermediate	rated spe	ed	Lower rated	speed		Stidings	leeve travet
Degree of deflection of control lever	rev/min Control rod travel mim 2	Control rod travel mm rev/min	(1a) (2a)	Degree of deflection of control tever	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever	rev/min 8	Control rod travel mm 3	rev/min	nim
							3 9				

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-rod Test oil tem		Rotational-speed (2b) timitation intermediate speed (4a)	Fuel deliv	rery characteristics 5a	Starting Idle switching		Torque- travel	Control rod
rev/min	cm³/1000 strakes	rev/min	rev/min	cm ³ /1000 strokes	rev/min		rev/min	mm.
1	2	3	4	5	6	7	8	9
į					ł			
						·		
]	
}				1				
}						•		

Checking values in brackets

* 1 mm less control rod travel than col 2

Test Specifications Fuel Injection Pumps (A) and Governors

WPP 001/4 MB 14,6 p 1

2. Edition

PE 8 P 120 A 320 LS 3816-10

RSV 650-1150 POA 823

supersedes 1.85

company Daimler-Benz

1-8-7-2-6-3-5-4 je 45° $\stackrel{+}{=}$ 0,5° ($\stackrel{+}{=}$ 0,75°) Values only apply to test nozzle-and-holder assembly

OM 422 A 206 kW

1 688 901 019 and fuel-injection test tubing 1 680 750 067

Komb.-Nr. 0 401 878 70.

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

4,0-4,1 (3.95-4.15)

mm (from BDCZy].. 8

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Suel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm³/100 strokes	cm ¹ / 100 strokes	mm	cm /100 strokes	mm 6
1180	9,3-9,4	13,7-13,9	0 5 (0 0)	2		
		13,7-13,9	0,5 (0,9)			-
650	3,4-3,6	1,6-2,2	0,8 (1,2))		a
975	-	C, Sp. 4 u. 5	0,8 (1,2))		ļ

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 Uppe	er rated speed	rev/min	Interme	diate rate	d speed	(4)		rated speed	(3) 111	rque control
Degree of deflection of control	Control rod travet mm	Control rod travel rom rev/min				Control- lever deflection in degrees	rev/min	Control rod travel mm	rev/min	Control rod travel mm
lever 1	2	3	4	5	6	7	8	9	10	11
loose	800	0,3-1,0	-		•	ca. 24	650	3,6	1180	
	X =	2,25					650 655-69	3,5-3,7 $5 = 2,0$	975 1075	
ca. 46	8,3 4,0 1400	1210-1220 1235-1250 0,3-1,4					000-03	o = 2,0		, and the second

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2b F	III-load stop	6 Rotational- speed limitat	39 F	uel delivery naracteristics	Starting f	uel delivery 5	(4a) (d)	e stop
Test oil to rev/min 1	emp 40°C (104°F) cm ^{-/} /1000 strokes 2	Note changed to) rev/min 3	rev/min	cm³/1000 strokes 5	rev/min 6	cm/1000 strokes 7	rev/min 8	Control rod travel mm ~
1180	137,0-139,0 (134,0-142,0)	1160-1170*	975	152,0-158,0 (149,0-161,0)	100	140,0-160, 136,0-164,		-

Checking values in brackets

* 1 mm less control rod travel than col. 2

10.85

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Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 SCA 11,0 u

6. Edition

PE 6 P 120 A 720 RS 7001

ROV 200-1000 PA 539

supersedes 11.84

company:

Scania

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 015 Komb.-Nr. () 402 646 801

DS 11 15

Testoil-ISO 411

All test specifications are valid for Bosch Fuel injection Pump Test Benches and Testers to FD 052: 4,40-4,50

(4,35-4,55)

A. Fuel Injection Pump Settings
from FD 141:5,0-5,1
Port closing at prestroke

(A 05-5 15)
mm mm (from BDC) RW = 9.0 - 12.0 mm(4.95-5.15)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strakes 3	Spring pre-tensioning (torque-control valve) mm 6
700 225	13,2+0,1 4,6-4,8		0,6 (0,9) 0,3(0,6)		·	3,3 ± 0,1 ** (3,0 - 3,5)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed		Intermediate	rated sp	eed	Lower railed	speed	•	Stiding	leeve travel
Degree of deflection of control	rev/min Control	Control rod to	Degree of deflection of control		Control rod travel	Degree of deflection of control		Control rod travel	U	1
lever	rodtravel mm	rev/min (28)		rev/min	mm (4)	lever	rev/min	mm ③	rev/min	mm
1	2	3	4	5	6	7	3	9	10	11
max.	1000	15,2-17,8	-	-	-	ca. 10	100	min. 5,9	150	0,5-0,8
ca. 60	12,2	1040-1050					225	4,4-4,6	430	3,0-3,5
	4,0	1150-1180					310-	370=2,0	720	5,0-5,2
	1300	0 - 1,0				39			1000	7,7

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) (2)		Rotational-speed 2b ilmitatio: intermediate speed			Starting Idle switchin		Torque- travel	Control (5)
rev/min	cm ³ /1000 strokes	rev/min 4	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9
LDA	0,9 bar	1040-1050*	LDA	0,9 bar	100	240,0-290,0	-	-
700	199,0-201,0 (196,0-204,0)		1000 LDA 500	193,0-201,0 (191,0-203,0 0 bar 160,0-164,0 (158,0-166,0)	bei 20,0 - 21,0 mm R₩		

Checking values in brackets

* 1 mm less control rod travel than col. 2

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D. Adjustment Test for Manifold Pressure Compensator

SCA 11,0 u - 2 -

Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PE 6 PRS 7001	0,42		12,8 - 12,9
+PA 539		0,90	13,2 - 13,3
		0	11,6 - 11,7
		0,29	11,9 - 12,1
: 1			

Notes (1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

SUPPLEMENTARY INFORMATION

- Checking and adjustment without a ROBO diaphragm
- for combination with letter index see VDI-1-400/116
- for sealing, see VDI-I-400/117
- lest specifications approved by Scania 18.8.1983
- Start of fuel delivery-engine:

17° before TDC

- Firing sequence, engine

1-5-3-6-2-4

** Due to smoothing of the sealing edge, the spring tension with a new delivery-valve holder must be adjusted 70 3,0 - 3,1 mm.

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps 1 WPP 001/4 SCA 14,2 a 3 and Governors

5. Edition

PE 8 P 120 A 920/4 LS 7002 RQV 250-1000 PA 547 1-2-7-3-4-5-6-8 je $45^{\circ} \pm 0,5^{\circ} (\pm 0,75^{\circ})$

supersede 10.84 company Scania engine DS 14 06

Values only applx to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 015

Komb.-Nr. 0 402 648 801

All test specifications are valid for Boach Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

to FD 052: 4,4 - 4,5

rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
700	13,2+0,1	18,7~18,9	0,6(0,9)			3,3 ± 0,1
225	4,9-5,1	1,0- 1,4	0,3(0,6)			(3,0 - 3,5)

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper rated	speed			Intermediate	rated sp	eed		Lower rated	speed	•	Sliding s	leeve travel
Degree of deflection	rev/min Control	traver \	(a)	Degree of deflection	!	Control rod travel		Degree of deflection		Control rod travel		0
of control lever	rod travel	ten/win (20	of control lever	rev/min	mm (4	of control lever	rev/min	mm 3	rev/min	mm
1	2	3		4	5	6	_	7	8	9	10	11
max.	1000	15,2-17,	8	-	-	_		ca.10	100	min.5,9	200	1.0-1,2
ca. 60	12,2	1040-105	0						225	4,4-4,6	470	3,3-3,8
ļ	4,0	1150-118	Û						310-3	70=2,0	730	5,1-5,3
1 	1250	0 - 1,	0								1000	7,7
	<u> </u>							3a				L

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational-speed 2b timitation intermediate speed	I man about 1201		Starting Idle switchir		Torque- travel	Control cod
rev/min	cm³/1000 strokes	rev/min 4a	rev/min	cm³/1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9
LDA	0,9 bar	1040-1050*	LDA	0,9 bar	100	240,0-290,0	-	-
700	187,0-189,0 (184,0-192,0		1000 LDA	183,0-191,0 (181,0-193,0) 0 bar		bei 20,0-21,0 mm RW		
			500	137,0-141,0 (135,0-143,0)		 		

Checking values in brackets

* 1 mm less control rod travel then col. 2

8.85

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D. Adjustment Test for Manifold Pressure Compensator

SCA 14,2 a 3

Testaln =

rev/min increasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	Control rod travel
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
LS 7002 RQVPA 547	0,9 bar	0 bar 0,23 bar 0,35 bar	13,2 - 13,3 11,3 - 11,4 11,9 - 12,1 12,8 - 12,9

Notes.

(1) when n =

rev/min and gauge pressure =

bar (= maximum full foad control rod travel)

SUPPLEMENTARY INFORMATION

- Checking and adjustment without a ROBO diaphragm
- For combination with letter index see VDT-1-400/116
- for sealing, see VDI-1-400/117
- lest specifications approved by Scania on Aug. 19.8.1983
- Start of fuel delivery-engine:

18° before TDC

- Firing sequence, engine

1-5-4-2-6-3-7-8

** Due to smoothing of the sealing edge, the spring tension with a new delivery-valve holder must be adjusted 70 3,0 \pm 0,1 mm.

Test Specifications Fuel Injection Pumps (A) and Governors

40

WPP 001/4 SCA 11,0 y 1 3. Edition

En

PE 6 P 110 A 720 RS 3115

RSV 350-1100 P 1/481

supersedes 8.84

company Saab-Scania

engine DN 1101

Komb.-Nr. 0 401 876 728 See page 2

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Teston-Sc

(3,25-3,45)

mm (from BDC)

Rotational speed rev/min t	Control rad travel mm 2	Fuel delivery cm ¹ /100 strokes 3	Difference cm ¹ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ¹ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
600	12,4+0,1	11,9-12,1	0,5(0,7)			3,3 [±] 0,1 (3,0-3,5)
350	5,4-5,6	2,0-2,4	0,2(0,4)			(3,0-3,5)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

	r rated speed	rev/min Control rod	Intermediate rated speed			(4)		rated speed	Torque control		
Degree of deflaction	travel	travel		1		Control- tever		travet		travel	
of control	mm	mm rev/min	1	į		deflection in degrees	rev/min	mm	rev/min	mm	
1	2	3	4	5	6	7	8	9	10	11	
loose	800	0,3-1,0	-	-	-	ca. 30	350	5.0	-	-	
	. X =	5,75					350	5.4-5.6			
ca. 66	11,4	1140-1150					480-54	5,4-5,6 $0 = 2,0$	1		
	4,0	1210-1240	ł			1					
(29)	1350	0,3-1,7					ļ				

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

9	ill-load stop emp. 40°C (104°F)	Rotational- speed limitat Note:		el delivery aracteristics	Starting f	uel delivery 5	48 Idle stop		
rev/min 1	cm ¹ /1000 strokes 2	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm³/1000 strokes 7	rev/min B	travel mm 9	
600	119,0-121,0 (117,0-123,0)	1140-1150*	1100	119,5-124,5 (117,0-127,0)	100	240.0-290 = 20,0-21 mm RW		-	

Checking values in brackets

* 1 mm less control rod travel than col 2

BOSCH

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SUPPLEMENTARY INFORMATION

- Checking and adjustment without a ROBO diaphragm
- For combination with letter index see VDT-I-400/116
- For sealing, see VDT-I-400/117
- Test specifications approved by Scania on 22.8.1983
- Start of fuel delivery-engine: 21° before TDC
- Firing sequence, engine : 1-5-3-6-2-4

Test Specifications Fuel Injection Pumps (A) and Governors

40

WPP 001/4 MWM 3,1 c 2. Edition

En

PES 3 A 80 D 320/3 RS 1331

RSV 325-1500 A 2 B 505 DR

supersedes 4.84

Komb.-Nr. 0 400 463 137

company MWM D 226-3, 916-3

#Onio:=111: 0 100 100

euðine

1 - 2 - 3 je $120^{\circ} \pm 0.5^{\circ} (\pm 0.75^{\circ})$

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,2-2,3 (2,15-2,35)

mm (from BDC)

RW = 9,0 - 12,0 mm

control rod Fuel d	i /		travel	Fuel delivery	Spring pre-tensioning (torque-control valve)			
nm (2)	cmV100 strokes	cm ¹ / 100 strokes	mm	cm/100 strokes	mm			
	3	4	2	3	6			
9,0-9,1	4,8 - 4,9	0,25(0,4)]			
7,4-7,6	1,0 - 1,6	0,2 (0,35)					
na_differe	nce between co	ntrol-rod	travel 9 m	n and max. 3.	il- 4,5° camshaf			
2	9,0-9,1 7,4-7,6	9,0-9,1 4,8 - 4,9 7,4-7,6 1,0 - 1,6 ng difference between co	9,0-9,1 · 4,8 - 4,9 0,25(0,4) 7,4-7,6 1,0 - 1,6 0,2 (0,35	3 4 2 9,0-9,1 4,8 - 4,9 0,25(0,4) 7,4-7,6 1,0 - 1,6 0,2 (0,35) ng difference between control-rod ravel 9 m	3 9,0-9,1 · 4,8 - 4,9 0,25(0,4) 7,4-7,6 1,0 - 1,6 0,2 (0,35) ng difference between control-rod travel 9 mm and max. 3,5			

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm		intermed	fiate rated	speed	Control- lever deflection in degrees		rated speed Control rod travel mm	IL 9 /	rque control Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
loose	800	0,3-1,0		-	-	ca.19	325	5,5	Core	-
	Х	= 3,5					100	min.19,0		
ca.57	8,0 4,0 1740	1530-1540 1570-1600 0,3 - 1,7					325 410-4	5,9-6,1 70=2,0mm		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop emp 40°C (104°F)	Rotational- speed limitat	39 Fu	el delivery aracteristics	Starting f	uel delivery 5	49 ldl	e stop Congrol rod
rev/min	cm ⁹ /1000 strokes 2	changed to) rev/min 3	rev/min 4	cm³/1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min B	travel mm 9
1480	48,0 - 49,0 (46,5 - 50,5)	1530-1540*	-	•	100	90,0-106, (87,0-109,0 bei RW=19, - 21,0 mm)	-
					325	9,5-15,5 (8,0-17,0		

Checking values in brackets

* 1 mm less control rod travel than col 2

BOSCH

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Test Specifications Fuel Injection Pumps and Governors

NPP 001/4 MMM 19,9 b

Edition

Testoil-ISO 4113

(1) PE6P 120 A 320 RS 353

RSUV 300-750 P 9 A 333/1 R

supersedes 10.83

(2) PE6P 120 A 300/3 RS 342

company: MWM - Südbremse

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 074.

engine: D/TD/TBD 601-6

Komb.-Nr. 0 401 876 215 (4) 0 401 816 053 (2)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from RDC)

DW-10 5-22 5 mm

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm ³ /100 strokes	cm³/ 100 strokes	mm	cm³/100 strokes	mm
1	2	3	4	2	3	6
700	13,0+0,1	26,0-26,4 (25,7-26,7)	0,5 (0,9)			
300	5,5-5,7		0,8(1,2)			
					-	
	<u> </u>	<u> </u>	_L	l	1	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

(1)

Upper	rated speed		Intermediate	rated spe	ed	4 Lowe	r rated spe	ed	(3) Tor	que contral]
Degree of deflection of control lever	rev/min	Control red travel mm	Degree of deflection of control lever	rev/min	Control rod : travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	rev/min	Control rod travel mm	
1	2	3	4	5	6	7	8	9	10	11	
loose	800	0,3-1,0	-	-	•	ca.29	300	5,1	700	13,0-13	
	x =	5,25					100 300	5,5-5,7	450 325	13,0-13 14,2-14	
ca. 70	4,0=8	90-800 15-845 ,3-1,7						315-375			

The numbers denote the sequence of the tests

Without (2) and

C. Settings for Fuel Injection Pump With Fitted Governor

(1)

2 Full-loa	d stop	6 Rotational- speed limitat.		el delivery tracteristics	Starting Idle	fuel delivery	Sa) Idio	stop
	. 40°C (104°F) cm ³ /1000 strokes 2	Note: changed to rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	7 mm RW	rev/min	Control rod travel mm 9
The ful inspect	l-load delive ion sheet.	ry is adjust	ed on	- the engine in	100 acco		- the e	- ngine

Checking values in brackets

1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps (A) and Governors

WPP 001/4 MB 11,8 q

3. Edition

RSV 350-1000 P 4/466 R PE 6 P 100 A 720 RS 15 RS 15 Z RSV 350 -750 P 1/365 R (2)

supersedes 11.79 company Daimler-Benz OM 355

engine ** Set idle-speed auxiliary spring at 1,5-2,0 mm control-rod(1 - 152 kW - 207 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

(2 - 97 kW - 132 PS)

A. Fuel Injection Pump Settings

Port closing at prestroke (2,75-2,95)

Testoi!-150 4113

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference cm ^y	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min 1	mm (2)	cm ³ /100 strokes 3	100 strokes 4	mm 2	cm /100 strokes	mm 6
980	13,7-13,8	11,7 - 12,0	0,3(0,6)	12,0-12,1	9,6-9,8	n = 730
350	7,7-7,9	1,3 - 1,9	0,3(0,5)	7,7-7,9	1,2 - 1,8	n = 350

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

466R (1)

Uppe	rated speed	rev/min	Interm	ediate ratei	d speed		Lower	rated speed		rque control
Degree of deflection of control lever	Control rod travel mm	Control rod travel • mm rev/min	4	5	6	Control- tever deflection in degrees 7	rev/min	Control rod travel mm		Control rod travel mm 11
loose	800	0,3 - 1,0				ca. 22	350	5,3	980	13,7-13,8
	X =	2,5					100	min. 20	500	12 7 12 0
ca. 58		30 = 12,7 95 = 4,0 0,3-1,	, ,				350 510-570 4	5,7-5,9 = 2,0	500	13,7-13,9

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ilf-load stop emp 40°C (104°F)	Rotational- speed limitat	39 Fu	el delivery aracteristics	Starting f	uel delivery 5	48) Idi	e stop
rev/min	cm 1/1000 strokes	Note changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm//1000 strokes 7	rev/miiii	Control rad travel mm
980	117,0 - 120,0 (114,0 - 123,0)	1020-1030*	•	-	- 1100-	- 1120=4mmRW	-	•
				Adjusting the	idle	-speed aux	liary	spring

Checking values in brackets

* 1 mm less control rod travel than col. 2

(1) Uppe	er rated speed		Interm	ediate rat	e∂ speed	(4)	· Low	er rated speed	11 9 /	rque control
Degree of deflection of control lever	Control red travel mm	Control rod travel mm rev/min 3	4	5	6	Control- lever deflection in degrees 7	rev/min 8	Control rod travel mm	rev/min	Control rod travel mm
loose	800	0,3 - 1,0				ca. 17	350	6,7**	730	2,0-12,1
	X :	=				İ	100	min. 20	500	2,0-12,2
6	750-755 780-790 900 = 0	= 4,9				1 1 1	350 355-41	6,6-6,8 15 = 2,0	375	3,2-13,8

C. Settings for Fuel Injection Pump with Fitted Governor

	ull-load stop emp. 40°C (104°F)	Rotational- speer ilmitat	39 Ft	tel delivery caracteristics	Starting f	uel delivery 5	43 Idi	e stop
	cm ⁹ /1000 strokes 2	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	travel mm 9
730	96,0 - 98,0 (94,0 - 100,0)	750-755*			100 350 dispersi	140 - 160 6,7 mm RW 4,5-4,7mml on max.4 (6	kW)	

Checking values in brackets

B. Governor Settings

(1) Uppe	er rated speed		Intern	nediate rate	ed speed	(4)	Low	er rated speed	(3) To	rque control
Degree of deflection of control ever	Control rod travel mm	Control rod travel mm rev/min	4	5	6	Control- lever deflection in degrees 7	rev/min 8	Control rod trave! mm	rev/min	Control rod travel mm
										
			1							
2a)			ł							

C. Settings for Fuel Injection Pump with Fitted Governor

	III-load stop emp. 40°C (104°F)	Rotational- speed limitat. Note:		el delivery aracteristics	Starting f	uel delivery 5	49 Idi	e stop Control rod
rev/min 1	cm³/1000 strokes 2	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	travel mm 9
							.	

Checking values in brackets

* 1 mm less control rod travel than col. 2:

^{* 1} mm less control rod travel than col. 2

Test Specifications Distributor-type Fuel-injection Pumps

WPP 001/4 PEU 2.3 o

2. Edition

VE 4/10 F 2075 R 112 0 460 404 027 DHK 1 688 901 022

Overflow temperature 45° C

company: Peugeot

XD 2 S - USA

Fuel injection test tubing 6x2x450 mm

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

see VDT-W-460/... Pre-stroke setting mm

1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel	1500	4,8-5,2	mm	0,8	
·	1500	5,4-6,0	bar (kgf/cm²)	0,8	
1.2 Supply-pump pressure 1.3 Full-load delivery with	1125	45,7-46,7	cm ³ /1000 strokes	0,8	·
charge-air pressure Full-load delivery without	600	38,0-39,0	cm³/1000 strokes	0	2,5 (3,0)
charge-air pressure	390	8,0-12,0	cm³/1000 strokes	0	2,5 (3,5)
1.5 Full-speed regulation	2400	10,5-16,5	cm ³ /1000 strokes	0,8	
1.6 Start	100	min. 53	cm ³ /1000 strokes	0	
1.7 Load-dependent port-closing	-				

2. Test Spe	cifications	checking values in t	brackets ()	٠ ــــــــــــــــــــــــــــــــــــ		
2.1 Timing device LDA 0,8 bar	n = rev/min mm	600 1,0-1,8(0,7	7-2,1) 2,7-3	1000 3,3(2,3-3,7	1500) (4,3-5,7	2000) 6,8-7,6 (6,5-7,9)
2.2 Supply pump LDA 0,8 bar	n = rev/min bar (kgf/cm²)	400 1,6-2,2			2075 7,6 - 8,2	
Overliow delivery	n = rev/min cm ³ /10 s	500 (55-138 (0 bar) 40-153)		2075 (6 55-138 (4	0,8 bar) 40-153)
2.3 Fuel deliveries	,	.]			3. Dimens	sions for assembly
Speed control lever	Rot. speed rev/min	Fuel delivery cm ³ /1000 strokes		Charge-air press. bar (kgf/cm²)	Designation	and adjustment mm
End stop	2450 2400 2300 2050 1400 1125 750 *	max. 9,0 27,0-35,0 46,8-49,2 47,3-49,7 42,7-43,7	(9,5-17,5) (27,0-35,0) (45,7-50,3) (46,2-50,8) (43,9-48,5) (40,9-45,5) (36,2-40,8)	0,8 0,8 0,8 0,8 0,8	K KF MS SVS	3,3 5,7-5,9 0,9-1,1 2,3
switch-off			nder merekalandilikan ya alam as, a i musika di mala kara y		XK Xt	20,2-22,2
idle stop	450-550 390 680 630	SCI	(6,0-14,0) t 8.2 mm betw rew and contr ore than at 6	ol lever	Observations Check hydr start accord for operat Apply 12 V	cold- lerator

BOSCH

2.4 Solenoid

End stop

400

500

cut-in voltage

|min. 50

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min. 10 V

rated voltage 12 V

* LDA stroke = 4.5 mm

(2.1-3.5)

Test Specifications Distributor-type Fuel-injection Pumps 46

WPP 001/4 PEU 2,30 1 2. Edition

<u>En</u>

VE 4/10 F 2125 R 112-1 0 460 404 028

Overflow temperature 45° C

supersedes 5.84
company: Peugeot

engine:

XD 2 S

DHK 1 688 901 022 Fuel injection test tubing 6x2x450 mm

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

mm

Test Instructions and Test Equipment

see VDT-W-460/...

re-stroke	setting	

1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
,	1500	4,8 - 5,2	mm	0,8	
1.1 Timing device travel	1500	5,4 - 6,0	bar (kgf/cm²)	0,8	
1.2 Supply-pump pressure	1125	45,7-46,7	cm³/1000 strokes	0,8	2,5 (3,0)
1.3 Full-load delivery with charge-air pressure	600	37,3-38,3	cm³/1000 strokes	0	
Full-load delivery without charge-air pressure	390	8,0-12,0	cm³/1000 strokes	0	2,5 (3,5)
1.4 Idle regulation	2450	10,5-16,5	cm ³ /1000 strokes	0,8	
1.5 Full-speed regulation	100	min: 53,0	cm³/1000 strokes	O	
1.6 Start		,			l l
1.7 Load-dependent port-closing	-				

2. Test Spe	cifications	checking values in brackets ()		
2.1 Timing device LDA 0,8 bar	n = rev/min mm	600 1,0-1,8 (0,7-2,1)	1000 2,7-3,3(2,3-3,7)		
22Supply pump LDA 0,8 bar	n = rev/min bar (kgf/cm²)	400 1,6-2,2		2075 ⁽ 7,6-8,2	6,5-7,9)
Overflow delivery	n = rev/min cm ³ /10 s	500 (0 bar) 55-138 (40-153)	55	2125 (-138 (40-15	(0,8 bar) 53)
		<u>.L</u>		3. Dimer	sions

	i		
2.3 Fuel deliveries			
Speed control lever	Rot. speed rev/min	Fuel delivery cm³/1000 strokes	Charge-air press. bar (kgf/cm²)
End stop	2500 2450 2350 2050	max. 9,0 (9,5-17,5) 26,5-32,5 (25,5-33,5) 46,8-49,2 (45,7-50,3)	
	1400 1125 *750 600	47,3-49,7 (46,2-50,8) (43,9-48,5) 42,7-43,7 (40,9-45,5) (36,2-40,8)	0,8
switch-off			
idle stop	450-550 390 680	max. 1,0 (6,0-14,0) min. 6.0 at 8.2 mm betwee screw and contro	
End stop	630 400 500	min.2.0 more than at 60 min.50 max.50	
2.4 Solenoid	cut-in volta		

	3. Dimen	sions in assembly and adjustment mm
	K KF MS SVS	3,3 5,7-5,9 0,9-1,1 2,3
	, K	20,2-22,2
1	Observations ,	

Observations
Check hydr. coldstart accelerator
for operation:
Apply 12 V
500 1/min 2.2-3.4 mm
(2.1-3.5)
* LDA stroke = 4.5 mm

1.85

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Fuel Injection Pumps 1 WPP 001/4 0MB 7,4 b 1

and Governors

Test Specifications

3. Edition

PES 6 A 90 D 410 RS 2502

RQV 250-1300 A B 1071 DL

supersedes 5.84

company: OMB

8360.05.300 engine:

Komb.-Nr. 0 400 846 442

1 - 5 - 3 - 6 - 2 - 4 0 - 60 - 120 - 180 - 240 - 300 ° 0 + 5° (0 + 75°)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

14	10-2,307		1 - 7,0	7-1210 44	
Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
mm	cm ³ /100 strokes	100 strokes	mm	cm ³ /100 strokes	mm
2	3	4	2	3	6
12,3+0,1	8,4 - 8,5	0,3(0,45			
9,9-10,1	2,9 - 3,3	0,2 (0,3	5)		
				j	
	Control rod travel mm 2 12,3+0,1	Control rod travel mm	Control rod travel mm cm³/100 strokes 3 12,3+0,1 8,4-8,5 0,3(0,45)	Control rod travel mm cm³/100 strokes 3 12,3+0,1 8,4-8,5 Difference cm³/ 100 strokes 4 mm 2	Control rod travel mm cm³/100 strokes 2 12,3+0,1 8,4-8,5 Difference cm³/100 strokes mm cm³/100 strokes 2 0,3(0,45)

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper rated s	peed			Intermediate	rated sp	eed		Lower rated	speed	•	Stiding s	leeve travel
Degree of deflection	rev/min Control	Control rod (Degree of deflection		Control rod travel		Degree of deflection		Control rod travel		①
of control lever	rod travel	mm		of control lever	rev/min	mm (•	of control lever	rev/min	mm ③	rev/min	mm
1	2	3		4	5	6	_	7	8	9	10	11
max.	1350	15,2-17	,6	-	-	_		ca.21	100	min.11,5		0,4-1,5
									250	9,9-10,1	930	3,2-3,8 5,1-5,5
ca.62	11,3	1340-139	50	:							1300	7,9
Ì	4,0	1465-149 0 - 1,	-					250 -3 5 ③	Þ			
L	1.000				<u> </u>	<u> </u>						لـــــا

0,2 mm Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) 2 rev/min cm³/1000 strokes		Rotational-speed (2b) limitation intermediate speed rev/min	high idle s	very characteristics (56) peed (50) cm ³ /1000 strokes	ldie switchir		Torque- travel	Control (5) Control rod travel mm
1	2	3	4	5	6	7	8	9
1300	84,0 - 85,0 (82,0 - 87,0)	1340-1350 *	800 500	82,0 - 85,0 (79,5- 87,5) 74,0 - 76,0 (71,5- 78,5)		112,0-124, (109,0-127,6 = 16,0-16,6 mm RW	500	12,3+0,1 12,5×0,1 12,4+0,2

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Chucking values in brackets

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps (A) and Governors

40

WPP 001/4 DAF 8,3 k 6

En

1. Edition

PE 6 A 95 D 410 RS 2525 Komb.-Nr. 0 400 676 184

RSV 250-1200 A5C 2199-1 L

 $supersed \varepsilon_{\pmb{s}}$

company DAF engine DHTD 825

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

2,0 - 2,1 (1,95-2,15)

mm (from BDG) RW = 7,5-10,5 mm

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre tensioning (torque control valve)
rev/min	mm (2)	cm1/100 strokes	100 strokes	mm	cm'/100 strokes	min
1	2	3	4	2	3	6
1000	12,6+0,1	10,9-11,1	0,35 (0,6	<u></u>	4.	_
250	6,0-6,2	0,8-1,2	0,35(0,55			
		_				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 Uppe	r rated speed	rev/min	Interme	ediate rate	ed speed	(4)	Lower	rated speed	I(3 /	rque control
Degree of deflection of control fever	Control rod travel mm	Control rod travel mm rev/min	4	5	6	Control- lever dellection in degrees 7	rev/min 8	Control rud travel mm 9	rev/min	Control rod travel mm
loose	800	0,3-0,7	-	-	-	ca. 21	250	5,6	1000	12,6-12,7
	x =	4,3					100	min.19,5	400 300	12,8-12,9 13,0-13,5
ca. 55	11,6 4,0 1490	1230-1240 1325-1355 0,3-1,4					250 490-5	6,0-6,2 50=2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ull-foad stop emp 40°C (104 F)	Rotational- speed limitat	uel delivery paracteristics					
rev/min	cm/1000 strokes 2	changed to) rev/min 3	rev/min 4	cm ^{1/} 1000 strokes 5	rev/min 6	cm/1000 strokes 7	rev/min 8	travel mm 9
LDA 1000	0,7 bar 108,5-110,5 (106,5-112,5)	1230-1240*	LDA 600	0 bar 84,5-87,5 (82,0-90,0)	100	125,0-135 (122,0-138		

Checking values in brackets

* 1 mm less control rod travel than cot 2

10.85

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D. Adjustment Test for Manifold Pressure Compensator BAF 8,3 k 6

Test at n =

1000

rev/min decreasing pressure ~ in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PE 6 ARS 2525 + A5C 2199-1L	0,7	0,3 0,26 0	12,6-12,7 12,3-12,4 11,7-11,9 11,6-11,7

Notes

(1) when n =

rev/min and gauge pressure =

bar (a maximum full-load control rod travel)

- 2 -

WPP 001/4 FIA 4,6 b

1. Edition

PES 4 A 90 D 410 RS 2548

RQV 300-1200 AB 1209 L

supersedes-

Komb.-Nr. 9 400 085 245

company Fiat engine: 8340.05 74.0 kW

; All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

2,15-2,25
Port closing at prestrake (2,10-2,30)

mm (from BDC)

; cyl. 1; RW = 9,0-12,0 mm

		Z. 10-2.301				
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ² /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1200	12,0+0,1	7,8-7,9	0,3(0,5)			
300	8,1-8,3	0,7-1,1	0,25(0,45)		
				!		j

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed			Intermediate	rated sp	eed	Lower rated	specu		Sliding	iseve travel
deflection	Control rod travel	genet .		Degree of deflection of control fever	rev/min	Control rod travel mm 4	Degree of deflection of control lever 7	rev/min 8	Control rod travel mm 3	rev/min	(1) mm
max.	1200	15,2-17	,8	•	-	•	ca. 22	100 300	min.10,0 8,1-8,3		0,6-1,6 2,6-3,3
ca. 62	11,0 4,0 1500		05				320-390	630-	580= 2,0		5,4-5,9
							3				

Torque control travel a = 0,8 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-rod Test oil ten rev/min	stop ip. 40°C (104°F) 2	intermediate speed	high idle s	rery characteristics 5e pood 5b cm³/1000 strokes	· · · · · · · · · · · · · · · · · · ·		Torque- travel rev/min	Control 5 Control rod travel mm
1	2	3	4	5	6	7	в	9
1200	77,5-78,5 (75,5-80,5)	1240-1250*	700 500	74,5-76,5 (72,0-79,0) 76,5-78,5 (74,0-81,0)	100	165,0-175,0	1200 500 700 1000	12,3+0,

Checking values in brackets

* 1 mm less control rod travel than col. 2

10.85

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Test Specifications Fuel Injection Pumps (A) and Governors

40

WPP 001/4 CAS 8,3 d

1. Edition

PES 6 A 95 D 420 LS 2551 Komb.-Nr. 9 400 230 048

RSV 375-1100 A0B 2166 R

company A 504 BD

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Festoil-ISO 4113

2,2-2,3 2,15-2,35

mm (from BDC)

	(2,	13-2,337				
Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm (2)	cm1/100 strokes	cm ¹ / 100 strokes	mm	cm //100 strokes	mm
1	2	3	4	2	3	6
1100	10,5+0,1	7,6-7,8	0,3(0,45)			
375	7,7-7,9	1,5-2,1	0,3(0,5)			
ı						
		<u> </u>				L

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

(1) Uppe	er rated speed	l rev/min	(nigan)	diate rated	speed	(4)	Lower	rated speed	(3) to	rque control
Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min	4	5	6	Control lever deflection in degrees 7	rev/min 8	Control rod travel mm	rev/min	Control rod travel mm
			-	-	-	ca. 26	375	7,8	1100 700	11,8-12,1
ca. 42	9,5 4,0 2,0 1350	1130-1150 1230-1250 1280 0.3-1.7					100 375 670-730	min.19,0 7,7-7,9 =2,0	600	12,2-12,3

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2b) Fu	II-load stop	6 Rotational- speed limitat	1136	uel delivery Paracteristics	Starting (Starting fuel delivery 5 4a Idle stop				
Test oil te vev/min	emp_40°C (104°F) cm ¹ /1000 strokes	Note changed to 1 rev/min	rev/min	cm ¹ /1000 strokes	rev/min	cm ¹ /1000 strokes	rev/min	Control rod travel mm		
ì	2	3	4	5	6	7	8	9		
1000	76,0-78,0 (74,0-80,0)	1130-1150*	700	85,0-91,0 (83,0-93,0)	100	130,0-150, bei RW 17,8 mm	0 -	-		
			600	max. 94,0 (max. 98,0)	375	15,0-21,0				

Checking values in brackets



^{* 1} mm less control rod travel than cot 2

Test Specifications Fuel Injection Pumps (A) and Governors

WPP 001/4 DAF 6,2 n 3 1. Edition

En

PE 6 A 90 D 320 RS 2577 RSV 250-750 A 7 C 2202 R Komb.-NR. 0 400 676 179

supersedes -

DAF company

DT 615 engine

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

(2.15-2.35)

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre tensioning (torque-control valve)
rev/min	mm 2	cm ¹ /100 strokes	cm ¹ / 100 strokes 4	កាកា 2	cm /100 strakes	mm 6
750	11,0+0,1	7,5 - 7,7	0,4 (0,55)			
250	5,9-6,1	0,8 - 1,4	0,2 (0,4)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Port closing at prestroke

Degree of deflection of control lever	rated speed Control rod travel mm	rev/min Control rod travel mm rev/min 3	Interme	diate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	1131	rque control Control rod travel mm
ca.40	10,0 4,0 955	770-780 785-805 0,3-1,4	-	-	-	ca. 15	100 250	6,0 min.19,5 5,9-6,1 0 = 2,0**	1	-

** Set idle-speed auxiliary spring at 2 mm control-rod travel.

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop emp 40°C (104°F)	6 Rotational- speed limital	39 Fu	nel delivery paracteristics	Starting f Idle	uel delivery 5	Control rod		
rev/min	cm /1000 strokes 2	changed to) rev/min 3	rev/min 4	cm/1000 strokes 5	rev/min	cm /1000 strokes 7	rev/min 8	travel mm 9	
750	75,0 - 71,0 (73,0 - 79,0)	770-780*	_	-	100	19,5-21,0 mm RW	-	-	

Checking values in brackets

* 1 mm less control rod travel than col. 2

2

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps 2 and Governors

40

WPP 001/4 RAB 9,7 b

4. Edition

PES 6 A 95 D 420 LS 2595 Komb.-Nr. 0 400 846 514

RQ 200/1100 AB 1094-1 R

supersedes9.84 company RABA

engine D 2356 HM 6 U

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(1,95-2,15)

mm (from BDC)

		1,95-2,15)										
Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference crn ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6						
1100	11.3+0.1	12,1-12,3	0,3(0,6)									
200	6,4-6,	0,8-1,4	0,3(0,5)									

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

PRG che	Control rod travel	Full-load s Setting po rev/min 3	•	Test spec Control red travel	cifications (4) rev/min 6	Idle spec Setting p rev/min 7	Control rod travel	Test spe	cifications 5 Control rod travet mm	Torque o	Control rod (3)
550 VH =	19,2-20,8 max. 46°	550	20,0		1145-1160 1175-1205		6,0	100 200 290- 400	min. 8,0 6,4-6,6 330=2,0 max.1,0	1100 500 750 800	11,3-11,4 11,9-12,0 11,8-12,0 11,6-11,9

Torque-control travel on flyweight assembly dimension a =

0,3_{mm}

Speed regulation At 1145-1160 min-1

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	letivery on control lever np. 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics	. 3 1	Starting fuel delivery Idle speed		
rev/min	cm³/-1©00 strokes	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5	rev/n	nin 7	Control rad travel mm	
1100	121,0-123,0 (119,0-125,0)	500	800 500	119,0-125,0 (116,5-127,5) max. 117,0 (max. 119,5)	10	17,5-18	,1	

Checking values in brackets

10.85

BOSCH

Geschaftsbereich KH. Kundendienst. Kfz Ausrustung s. 1880 by Robert Bosch GmbH. Postfach 50, D-7000 Stuttgart 1 Printed in the Federal Republic of Germany প্ৰস্কৃতিক ৰ n Republique Federale d Allemagne pay Robert Rosch Combil.

WPP 001/4 BAO 13.8 a

3. Edition

_En

PE 12 A 90 D 521 RS 2648

RQV 325-1500 AB 1164 R

supersedes 9.84

Komb.-Nr. 0 400 650 002

company: Baudouin

1- 4- 9- 8- 5 - 2 - 11- 10- 3 - 6 - 7 - 12

gine: DF 12 AN,S

0-15-60-75-120-135-180-195-240-255-300-315° ± 0,5° (± 0.75°)

308 kW

Values apply to fuel-injection test tubing 1 680 750 015

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Start of delivery marking mark cylinder 1 at 24° on

Port closing at prestroke

(2 10-2 30)

mm (from BDC) the timing device.

· Ottoroom g zt prod		(2,10-2,30)		the Cillin	ig device.	
Rotational speed rev/min	Control rod travel mm 2	Fual delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1500	9,6-9,7	6,2-6,3	0,3(0,45			
325	6,0-6,2	1,1-1,7	0,25(0,4			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed		į	Intermediate	rated sp	eed		Lowerr	ated	speed	•		Sliding sleeve travel		
deflection	rev/min Control	Control rod traval	(b)	Degree of deflection		Control re travel	od	Degree deflecti	on		Control travel	rod			
of control lever	rod travel mm	mm rev/min	(28)	of control lever	rev/min	mm	(4)	of conti lever	rol	∉ev/min	mm	(3)	rev/min	mm	
1	2	3		4	5	6		7		8	9		10	11	
max.	1500	15,2-1	7,8	-	-	-		ca.	13		min.7		300	0,9-1,0	
ca. 46		1540-15! 1610-16		,						323	6,0-6	0,2	700 1100 1500	3,1-3,2 5,1-5,2 8,4	
	1700	0-1,	0					345-	46.	•					
								3 9						,	

Torque control travel a = " mi

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load-di Control-rot Test oil ten		Rotational-speed 2b limitation intermediate speed	high idle s	very characteristics 5a peed 5b	idie switchir	$\mathbf{\circ}$	Torque- travel	Control od travel
rev/mir	cm /1000 strokes	2	164/11/11	5		cm-/1000 strokes	0	mm 9
1500	61,5-62,5 (59,5-64,5)	1540-1550*	-	-	100	113,0-123,0 (110,0-126,0 =19,5-21,0 mm RW		-

Checking values in brackets

* 1 mm less control rod travel than col 2

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 DAO 9,7 a 1

1. Edition

PES 6 A 95 D 410 RS 2679 Komb.-Nr. 0 400 846 529

RQ 200/1100 AB 860-1 L

supersedes

company DAEWOO engine D 2156 MT 169 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

1,95-2,05 mm (from BDC)RW = 19.5-21.0 mm

		,30-2,10)	<u> </u>	$\frac{1}{1}$	774 I , U IIIII	
Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1100	10,5+0,1	12,7-12,9	0,35(0,6)			
200	5,9-6,1	1,2-1,8	0,35(0,55)		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che rev/min 1	ck Control rod (travel	Full-load s Setting po rev/min 3	•	-	cifications (4)	Idie sper Setting p rev/min 7	Control red travel	Test spe	cifications 5 Contro! rod travel mm	Torque o	Control rod (3)
600 VH =	19,2-20,8 max. 46°	600	20,0	9,5 4,0	1145-1160 1180-1210		6,0	200	min.7,3 5,9-6,1 50=2,0	600	10,5-10,6 10,7-10,8 10,6-10,8

Torque control travel on flyweight assembly dimension a =

0,10_{mm}

Speed regulation: At 1145-1160

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	delivery on control lever mp. 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics 3b	Starting f	uel delivery d Control
rev/min 1	cm ³ /-1000 strokes 2	rev/min 3	rev/min 4	cm³/-1000 strakes 5	revimin 6	cm ³ /1000 strokes/ mm 7
LDA 1100	0,7 bar 127,0-129,0 (125,0-131,0)		LDA 800 LDA 500	0,7 bar 130,5-133,5 (128,0-136,0) 0 bar 81,5-83,5 (79,5-85,5)	100	179,0-189,0 (176,0-192,0)

Checking values in brackets

10.85

BOSCH
Geschäftsbereich KH. Kundendienst. Kiz Ausrustung
1980 by Robert Bosch GmbH, Postfach 50, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprime en République Fédérale d'Allemagne par Robert Bosch GmbH

D. Adjustment Test for Manifold Pressure Compensator DAO 9,7 a 1

Test at n =

500

rev/min decreasing pressure – in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PES 6 ARS 2679 + AB 860-1 L	0,/	0 0,29 0,24	10,8-10,9 8,8-9,0 10,1-10,2 9,2-9,4

Notes

(1) when n -

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 LIE 5,6 b

2. Edition

PES 4 A 100 D 410 RS 2686

ROV 400-1000 AB 1203 L

Komb.-Nr. 0 400 844 085

supersedes 1.04 company: Liebherr engine: D 904 T

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (2,7-2,8 mm (from BDC)

Retational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	11,4+0,1	11,9-12,1	0,35(0,6)			
400	5,9-6,1	1,0-1,6	0,35(0,55			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed		Intermediate	e rated sp	eed	Lower rated	speed		Slidings	leeve travel
Degree of deflection of control lever	rev/min Control rod travel mm	rev/min (28	Degree of deflection of control lever	rev/min	!. •	Degree of deflection of control lever	rev/min	Control rod travel	rev/min	
'	2	3	 •	12	6	 	8	9		
max.	1070	15,2-17,8	-	-	-	ca. 11	100 400	min.7,5 5,9-6,1	375 600	1,0-1,1 3,7-4,0
ca. 62	10,4	1040-1050					<u> </u>		1000 1150	7,5-7,6 9,9
1	4,0 1250	1105-113				420-53)	•		
						(3a)				

Torque control travel a = 1,40 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter rev/min		Rotational-speed (2b) limitation intermediate speed rev/min (4a)	high idle s	rery characteristics (5a)	idie switchir	, 0	Torque- travel	Control (5) Control rod travel mm
1 LDA 1000	0,7 bar 119,0-121,0 (117,0-123,0		LDA 700 LDA 500	0,7 bar 128,5-131,5 (126,0-134,0 0 bar 87,5-90,5 (85,5-92,5)		7 19,5~21,0 mm RW	500 900	9 11,4+0, 12,8+0, 11,7+0, 12,5+0,

Checking values in brackets

* 1 mm less control rod travel than col. 2

BOSCH

châtabereich KH. Kundendienst Kiz-Ausrusturg

D. Adjustment Test for Manifold Pressure Compensator LIE 5,6 b

Test at n =

for the following pressure of the following pressure for the following pres

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PES 4 A RS 2686 +RQV AB 1203 L	0,70	0 0,40 0,33	12,8-12,9 10,4-10,5 11,8-11,9 10,6-10,8

Notes

(1) when n =

rev/min and gauge pressure =

bar (- maximum full-load control rod travel)

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps 2 and Governors

40

WPP 001/4 DAF 6,2 p 2

1. Edition

En

PES 6 A 95 D 320 RS 2693 Komb.-Nr. 0 400 846 538

RQ 300/1300 AB 1204 R

supersedes_

company: DAF

engine DNT 620

130 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,0-2,1

mm (from BDC) RW = 7.5-10.5 mm

Fort closing at pros	(1,95-2, <u>15)</u>		KW = /, 5	10,5 11111	
Rotational speed rev/min		Fuel defivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
850	11.5+0.1	7.6-7.8	0,35(0,6)			
300	6,4-6,5	0,7-1,1	0,35(0,55)		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che rev/min 1	Control rod	1	int Control	Test spec Central red travel	cifications (4)	Idle spec Setting p rev/min 7	coint Control rod travel	Test spe	cifications Control rad travel mm	Torque o rev/min 11	Control red (3)
850 VH =	19,2-20,8 max. 46°	850	20,0	10,0	1350-1365 1420-1450		6,2	100 300 520-	min.7,2 6,1-6,3 560=2,0	850 935	11,0-11,1 12,4-12,6 12,1-12,3 11,3-11,6

Torque-control travel on flyweight assembly dimension a =

0,57 _{mm}

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	telivery on control lever	2	Control rod stop	Fuel deliv	very characteristics	3 b	Starting I	uel delivery d 1 Control
rev/min	cm ³ /-1000 strokes		rev/mic 3	rev/min	cm³/-1000 strokes 5		rev/min 6	cm ³ /1000 strokes/ mm 7
LDA 850	0,7 bar 76,0-78,0 (74,0-80,0)		•	LDA 1290	0,7 bar 75,5-78,5 (73,0-81,0)		100 300	135,0-145,0 (132,0-148,0) 7,0-11,0
				LDA 600	0 bar 65,0-67,0 (63,0-69,0)			(4,5-13,5)

Checking values in brackets

D. Adjustment Test for Manifold Pressure Compensator DAF 6,2 p 2

Test at n =

600

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PES 6 ARS 2693	0,7	0 0,25	11,5-11,6 11,2-11,4 11,4-11,5

Notes

(1) when n :

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

L8

E

Test Specifications Fuel Injection Pumps (A) and Governors

WPP 001/4 DAF 6,2 o 2 1. Edition

En

PES 6 A 95 D 320 RS 2693

RSV 300-1300 A 0 C 2206 R

supersedes

engine

DAF company

DNT U 620

Komb.-Nr. 0 400 876 332

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

2,0-2,1 (1,95-2,15)

mm (from BDC) RW = 7.5 - 10.5 mm

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm ¹ /100 strokes	cm ¹ / 100 strokes	mm 2	cm ⁻ /100 strokes	mm 6
850	10,8+0,1	6,4 - 6,6	0,35 (0,6)			
300	6,1-6,3	0,6 - 1,2	0,35 (0,55)		

Adjust the fuel delivery from each outlet according to the values in E

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm		Control- lever trav			rated speed Control rod travel	N 3 /	rque control Control rod travel mm		
looso	200	0 2 0 7	4	5	6	r ca. 28	300	9 5.7	1290	10,2-10,4
loose	800 X =	0,3-0,7 5,5	-	-	, -	ca. 20	-	5,7 min. 19,5		10,8-10,9
ca.57	9,2 4,0 1570	1340-1350 1430-1460 0,3-1,4					300 600 -	6,1-6,3 660=2,0	1005	10,5-10,7

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	il-load stop	6 Rotational- speed limitat	38 F.L	el delivery aracterístics	Starting t	uel delivery 5	4a) Id	e stop
fest oil to	emp_40°C (104°F) cm/4000 strokes	Note changed to) rev/min ,	rev/min	cmV1000 strokes	rev/min	cm1//000 strokes	ı6∧\wıu	Control rod travel mm
1	2	3	4	5	6	7	8	9
850	64,0 - 66,0 (62,0 - 68,0)		1290	69,0 - 71,0 (66,5 - 73,5)	100 300	125,0-135, (122,0-138, 6,0-12,0 (3,5-14,5	0)	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

2

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps and Governors

WPP 001/4 DAF 6,2 p 1

1. Edition

PES 6 A 95 D 320 RS 2693 Z Komb.-Nr. 0 400 846 537

RO 300/1300 AB 1204 R

supersede DAF company DNS 620

150 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Porticiosing at prestroke

2,0-2,1 (1,95-2,15)

mm (from BDC) RW = 7.5-10.5 mm

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ¹ /100 strokes 3	Difference cm ¹ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm 1/100 strokes	Spring pre-tensioning (torque-control valve) mm
850	12,4+0,1	9,0-9,2	0,35(0,6)			
300	6,4-6,6	0,7-1,1	0,35(0,55)		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin	g of slider	Full-load	speed re	gulation		lidle spe	ed regula	ation		Torque	control
		Setting p	oinf	Test spe	cifications	Setting	point	Test spe	cifications		
rev/min	Control rod travel mm 2	rev/min	Control rod travet rnm 4	rev/min 5	Control rod travel mm 6	rev/min 7	Control rad travel mm 8	rev/min	Control rod travel mm 10	rev/min	Control rod travel mm 12
820	19,2-20,8	820	20,0	10,6	1343-1358	300	6,2	100	min.7,3	1290	11,7-11,9
VH =	max. 46°			4,0	1425-1450			300 520-	6,1-6,3 560=2,0	965	13,1-13,3 12,7-12,9 12,3-12,5
	and the same of th										

Torque control travel on flyweight assembly dimension a

0,57 _{mm}

Speed regulation At

1 mm less control

C. Settings for Fuel Injection Pump with Fitted Governor

Full load delivery on governor control lever Test oil temp 40°C (104°F)		Control rod stop	fuel deliv	ery characteristics	Starting fuel delivery		
rev/min	cm ¹ /- 1000 strokes 2	tev/min 3	rev/min	cm ¹ /- 1000 strokes 5	rev/min	cm 1/100 strokes	
LDA 850	0,7 bar 90,0-92,0 (88,0-94,0)	-	LDA 1290 LDA 600	0,7 bar 87,0-90,0 (84,5-92,5) 0 bar 65,0-67,0	100 300	135,0-145,0 (132,0-148,0) 7,0-11,0 (4,5-13,5)	
•						(4,5-13	

Checking values in brackets

10.85

Geschaftsbereich KH. Kundendienst. Kfz. Austüstung. 1980 by. Robert Bosch GmbH. Postfach 50, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprime en Republique Fédérale d'Allemagne par Robert Bosch GmbH.

D. Adjustment Test for Manifold Pressure Compensator DAF 6,2 p 1

Testatn =

600

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PES 6 ARS 2693 Z + AB 1204 R	0,7	0 0,31 0,25	12,4-12,5 11,2-11,4 12,1-12,2 11,2-11,4

Notes

(1) when n

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

Test Specifications Fuel Injection Pumps (A) and Governors

WPP 001/4 DAF 6,2 o 1

1. Edition

PES 6 A 95 D 320 RS 2693 Z Komb.-Nr. 0 400 876 333

RSV 300-1300 AOC 2195 R

supersedes company DAF **DNT 620** engine

Festoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,0 - 2,1(1,95-2,15)

mm (from BDG) RW = 7.5-10.5 mm

En

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm (2)	cm ³ /100 strokes	cm ¹ / 100 strokes	mm	cm1/100 strokes	mm
1	2	3	4	2	3	6
850	12,4+0,1	9,0-9,2	0,35 (0,6)			
300	6,1-6,3	0,6-1,2	0,35(0,55)			
			ĺ		1	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm		Intermed	diate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm		rque control Control rod travel mm
loose	800 x =	0,3-0,7 5,8		-	•	ca. 28	300 100	5,7 min.19,5	1290 500 1040	
ca. 59	10,6 4,0 1595	1340-1350 1425-1455 0,3-1,4					300 575-635	6,1-6,3 =2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

W	speed ilmitat]			el delivery aracteristics	Starting I	luel delivery 5	4a Idle stop	
rev/min	cm /1000 strokes	Note changed to) rev/min	rev/min	cm 11000 strokes	rev/min	cm /1000 strokes	rev/min	Control cod travel mm
1	2	3	4	5	6	7	8	9
LDA 850	0,7 bar 90,0-92,0 (88,0-94,0)		LDA 1290 LDA 600	0,7 bar 85,0-87,0 (82,5-89,5) 0 bar 65,0-67,0 (63,0-69,0)	300	125,0-135 (122,0-138 6,0-12,0 (3,5-14,	0)	

Checking values in brackets

* 1 mm less control rod travel than col. 2

BOSCH

D. Adjustment Test for Manifold Pressure Compensator DAF 6,2 o 1

Testatn =

600

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Messurement	diminution Control rod travel difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PES 6 ARS 2693 Z + AOC 2195 R	0,7	0 0,31 0,25	12,4-12,5 11,1-11,2 12,1-12,2 11,5-11,7

Notes

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-lead control rod travel)

Test Specifications Fuel Injection Pumps (1) and Governors

WPP 001/4 VOL 6,1h

1. Edition

Festoil-ISO 4113

PES 6 MW 100/320 RS 1119 RQV 300-1400 MW 57 0 403 446 152 superaedes -

company: Volvo

engine: TD 61-3012

132 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Rotational speed	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	11,6+0,1	9,0-9,2	0,35(0,6)			
300	6,5-6,6	1,2-1,6	0,35(0,5)			
1000	10,3+0,1					

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed		intermediat	intermediate rated speed			speed		Stiding	leeve travel
	rev/min Control rod travel	Control rod (travel	Degree of deflection of control		Control rod trave!	Degree of deflection of control		Control rod travel	Sildings	
lever		rev/min (2	lever	rev/min	mm (4)	lever	rev/min	mm (3)	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
max.	1480 1725	15,2-17,8 0,1-1,0	3			ca. 16	3(·0 1//0	6,5-6,6 min.8,1		
ca. 62	10,6 4,0	1440-1450 1595-162								
						39				

Torque control travel a =

mn

C. Settings for Fuel injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp: 40°C (104°F) 2		Rotational-speed 2b limitation intermediate speed	Fuel delic	very characteristics (56) speed (5b)	Starting Idle switching		Torque- travel	Control (5)	
rev/min	cm ² /1000 strokes	rev/min 48	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm	
1	2	3	4	5	6	7	8	9	
LDA 1000	0,7 bar 90,0-92,0 (88,0-94,0)	1440-1450*	LDA 1000	0 bar 75,0-77,0 (73,0-79,0)	300	140 – 160 (137 – 163) 12,0-16,0 (9,5-18,5)			

Checking values in brackets

* 1 mm less control rod travel than col. 2

10.85

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D. Adjustment Test for Manifold Pressure Compensator

Testain =

550

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure - bar	Gauge pressure - bar	mm (1) .
RS 1119 with MW 57	0,22	0,33 0 0,70	10,5-10,6 11,2-11,5 10,3-10,4 11,6-11,7

Notes:

Testoil-ISO 4113

(1) when n =

rev/min and gauge pressure

bar (τ maximum full-load control rod travel)

LAS En

L15

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 VOL 6,18

1. Edition

Festoil-ISO 4113

PES 6 MW 100/320 RS 1119-1 RQV 300-1400 MW 57-1 0 403 446 153 supersedes ·

company: Volvo

engine:

TD 61.3012

150 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (2.95-3.15) mm (from BDC)9,0-12,0 mm RW

Rotational speed Control rod Fuel delivery Difference Control rod Fuel delivery

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min 1	mm 2	cm ³ /100 strokes 3	100 strokes 4	mm 2	cm ³ /100 strokes 3	mm 6
1000	12,0+0,1	10,5-10,7	0,35(0,6)			
300	6,0-6,1	1,2-1,6	0,35(0,55)		7
1000	10,1+0,1		0,35(0,55)		
1	1		<u> </u>	l		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed		Intermediate	rated sp	eed	Lower rated	speed		Stidings	leeve travel
Degree of deflection of control lever	rev/min Control rod travel mm 2	Control rod (18) travel mm rev/min (2a) 3	Degree of deflection of control lever	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever 7	rev/min 8	Control rod travel mm 3	rev/min	0
max.	1480 1700	15,2-17,8 0-1,0				ca. 13	300 100	6,0-6,1 min.7,6		
ca. 61	11,0 4,0	1440-1450 1590-1620								
						3a				

Torque control travel a =

്നന

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) 2		fimitation intermediate speed	(30)		idle switchir	ng point	travel	Control Control rod
rev/min	cm ³ /1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	mm
9	2	3	4	5	6	7	8	9
LDA 1000	0,7 bar 105,0-107,0 (103,0-109,0)	1440-1450*	LDA 1000	0 bar 75,0-77,0 (73,0-79,0)	100 300	140,0~160,0 (137,0~163,0 12,0-16,0 (9,5-18,5))	

Checking values in brackets

* 1 mm less contro! rod travel than col. 2

D. Adjustment Test for Manifold Pressure Compensator

Testatn =

550

rev/min decreasing pressure - in bar gauge pressure

	٠
13	
41	
0	
<u>S</u>	
15	
est	
16	7

		Tata-augment	diminution
Pump/governor	Setting	Measurement	Control rod travel- difference
	Gauge pressure bar	Gauge pressure = bar	mm (1)
RS 1119-1 with RQVMW 57-1	0,16	0,33 0 0,70	10,5-10,6 11,7-12,0 10,1-10,2 12,0-12,1

Notes

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

0

Test Specifications Fuel Injection Pumps (1) and Governors

40

WPP 001/4 VOL 6.1 f

1. Edition

estril-ISO 4113

PES 6 MW 100/320 RS 1119 RQV 300-1400 MW 58 0 403 446 151 supersedes

company: Volvo

engine:

TD 61.3012

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (2.95-3.15)

mm (from BDC)

Rotational speed rev/min	travel	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	10,4+0,1	8,0-8,2	0,35(0,6)		
300	6,1-6,2	1,2-1,6	0,35(0,5	5)		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	speed		Intermediate	e rated sp	eed	Lower rated	speed	4	Sliding s	leeve travel
	rev/min Control rod travel	Control rod (a travel	Decree of deflection of control		Control rod travel	Degree of deflection of control		Control rod travel		1
lever	mm	rev/min (28	lever	rov/min		lever	rev/min	mm (3)	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
max.	1480	15,2-17,8	3			ca. 13	300	6,1-6,2		
	1680	0-1,0	_				100	min.7,8		
ca. 60	9,4	1440-1450		!	İ			,0		
ļ	4,0	1565-159!	5	ŀ						
Ì				i		_	ļ			
						3				

Torque control traval a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-foad delivery Control-rod stop Test oil temp. 40°C (104°F) 2		fimitation intermediate speed	high idle speed ®		Starting Idle switchis		Torque-	Control rod
rev/min	cm³/1000 strokes	rev/min 4a	rev/min	cm ³ /1000 strokes	rev/mln	cm ³ /1000 stroke.s	rev/min	uuu .
1	2	3	4	5	6	7	8	9
1000	80,0-82,0 (78,0-84,0)	1440-1450*			300	19-21 mm RW 140,0-160,0 (137 -163) 12,0-16,0 (9,5-18,5)		

Checking values in brackets

* 1 mm less control rod travel then cot. 2

estoil-ISO 4113

Test Specifications Fuel Injection Pumps and Governors

WPP 001/4 KHD 40,5c1 3. Edition

PE 8 P 120 A 920/5 RS 293

RSUV 300-750 P 9 A 350

supersedes8.80

company:

KHD engine:

BA 16 M 816

Komb.-Nr. 0 401 878 105 1 - 6 - 4 - 5 - 8 - 3 - 2 - 7

0 -75 -90 -120-210-225-315-345-+ 0,50(0,75)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from BDC)

Port closing mark cyl. 1

r Ort closting at proo	(1,90-2,10/			FULL CIUSTING	mark cy i i
Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm ³ /100 strokes	cm ³ / 100 strokes	mm	cm ³ /100 strokes	mm
1	2	3	4	2	3	6
750	10,8+0,1	16,5-16,9 (16,2-17,2)	0,5(0,9)			
300	6,3-6,5	2,2 - 2,8	0,8(1,2)			
					1	

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper	Upper rated speed Intermediate rated speed			red	4 Lower	rated spe	ed	3 Torque control		
Degree of deflection of control lever	rev/min	Control rod travel	Degrae of deflection of control lever	rev/min	Control rod travei mm	Degree of deflection of control lever	rev/min	Control rod travel inm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	111
loose	800	0,3-1,0				ca.26	300	5,9	750	10,8-10,9
	X =	4,0	İ				300	6,3-6,5	400	10,8-10,9
⑤ ^{a.61}	790-80 810-84 975=0	Ψ					335-	95 =2,0	325	11,7-12,3

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-loa	d stop	6 Rotational- speed limitat.		el delivery tracteristics	Starting Idle	fuel delivery	(5a) Idi	e stop
Test oil temp. rev/min 1	40°C (104°F) cm ³ /1000 strokes 2	Note: changed to rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min 6	cm³/1000 střokes 7	rev/min 8	Control rod travel mm 9
Test v reques	alue on t	790-800*	-	-	100	19,5-21,0 mm RW	300	6,4

Checking values in brackets

* 1 mm less control rod travel than col. 2

Testoil-150 4113

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 DAF 11,6 y 2

1. Edition

PE 6 P 120 A 320 RS 415-1 Komb.-Nr. 0 401 846 511

RQ 250/1000 PA 417-4

supersedes company: DAF

engine:

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 067 **DKZ 1160**

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(2,75-2,95)

mm (from BDC) RW = 9.0-12.0 mm

Rotational speed rev/min 1	Control rod travel	Fuel delivery cm ³ /100 strokes 3	Difference cm²/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
850	12,5+0,1	20,6-20,8	0,5(0,9)			
250	6,7-6,9	1,4-2,0	0,8(1,2)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che	g of slider	Full-load s	•	-	cifications (4)	Idle spec	•		cifications (5)	Torque	control (3
rev/min 1	Control rod travel mm	rev/min 3	Control rod travel rom 4	Control red iravel mm 5	rev/min	rev/min 7	Control red travel control 8	rev/:min 9	Control rod travel	rev/min	Control rod (
550	15,6-16,4	550	16,0	11,5 4,0 1250	1035-1050 1090-1120 0-1,0		6,5	250	min.7,4 6,4-6,6 485=2,0		12,7-12,8 12,6-12,8

Torque-control travel

Speed regulation: At 1035-1050 min-1

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp. 40°C (104°F)		Control rod stop 3a	Fuel deliv	ery characteristics 3b	Tone opered		
rev/min 1	cm³/-1000 strokes 2	rev/min 3	rev/min	cm ³ /-1000 strokes 5	rev/min	Exitor rad travel cm ³ /1000 strokes / mm 7	
LDA 850	0,7 bar 206,0-208,0 (203,0-211,0)	-	LDA 600	0 bar 140,0-142,0 (137,0-145,0)	100	305,0-345,0 (305,0-345,0)	

Checking values in trackets

D. Adjustment Test for Manifold Pressure Compensator DAF 11,6 y 2

Testatn =

600

rev/min decreasing pressure – in bar gauge pressure

Pump/governor	Selling	Measurement	diminution Centrol rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PE 6 PRS 415-1 + RQPA 417-4	0,7	0 0,34 0,28	12,5-12,6 10,3-10,5 11,8-11,9 10,6-11,0

Notes

(1) when n =

rev/min and gauge pressure = bar (= maximum full-toad control rod travel)

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 DAF 11,6 y 3

1. Edition

PE 6 P 120 A 320 RS 415-1

RQ 250/900 PA 754

supersedescompany: DAF

Komb.-Nr. 0 401 846 510

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 067

engine DKX 1160 E

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pymp Settings

Port closing at prestroke

(2,75-2,95)

mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
875	11,0+0,1	17,1-17,3	0,5(0,9)			
250	6,7-6,9	1,4-2,0	0,8(1,2)			
İ	Ì					

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che rev/min 1	Control rod	l 1	`	•	cifications (4)	Idle spee Setting p rev/min 7	Control rod travel		cifications 5 Control rod travel mm	Torque o rev/min 11	Control rod (3)
850	14,1-14,9	850	14,5	10,0 4,0 1150	925-940 995-1025 0-1,0	250	6,5	100 250 445-	min.7,4 6,4-6,6 485=2,0	600 735	11,0-11,1 11,8-11,9 11,4-11,6 11,2-11,4

Torque-control travel on flyweight assembly dimension a=0,50 mm Torque-control travel

1 mm less control

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp. 40°C (104°F)		Control rod stop 3a	Fuel deliv	ery characteristics	Starting fuel delivery Idle speed Control		
rev/min	cm³/-1000 strakes	rev/min 3	rev/min 4	cm ³ /-1000 strokes	rev/min 6	cm ³ /1000 strokes/ mm	
LDA 875	0,7 bar 171,0-173,0 (168,0-176,0)	-	LDA 600	0,7 bar 1/2,0-178,0 (169,0-181,0)	100	305,0-345,0 (301,0-349,0)	
	0.		LDA 600	0 bar 140,0-142,0 (137,0-145,0)			

Checking values in brackets

D. Adjustment Test for Manifold Pressure Compensator DAF 11,6 y 3

Test at n =

600

rev/min decreasing pressure - in bar gauge pressure

_	
	13
	41
	S
	三
	Sto
	7

Setting	Measurement	diminution / Control rod travel- difference
Gauge pressure = bar	Gauge pressure = bar	mm (1)
0,7	0 0,30 0,25	11,6-11,7 10,3-10,5 11,1-11,2 10,4-10,7
	Gauge pressure - bar	Gauge pressure = bar 0,7 0 0,30

Notes

(1) when n =

rev/min and gauge pressure

bar/(~ maximum full-load control rod travel)